A UNIQUE METAL BELT FROM THE MUSEUM OF VAN DEPICTING A FORTRESS

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Abstract

Metal belts provide information about decoration techniques and artistic and social life of the Urartians. The belts were decorated through embossing, stamping and line decoration techniques (engravings) on a thin bronze plate, 70-120 cm long and 5.5-17 cm wide. Urartian metal belts are divided into three groups, narrow, medium and wide according to their width. The belt which we examined in this study is from the narrow group and is located in the Van Museum (Inventory No: 2015/4971/A). The metal belt was found on the surface in a necropolis located just west of the village of Yanal, located 45 km from the Başkale district of Van. There are banquets, fortresses and panels with different animal depictions on the belt. Strips with a double row of dots were made with the embossing technique, and all other embellishments were applied by engraving. On narrow belts, banquet scenes and castle depictions were loved and commonly used. The depiction of the castle on this belt differs from those described in other Urartian art and includes innovations. In addition, a series of wild animals are also depicted in friezes on the belt. These include wild sheep (male and female), wild goats, gazelles and bird of prey figures. Due to the thematic friezes depicted on this belt, the embossed dot ornamentation, six-spoke cart wheels and rose motifs on women's clothing, we can say that this belt was produced between the 8th and 7th century BC.

The Urartu Kingdom dominated the geographical area encompassing Iran to Azerbaijan east of the Euphrates River, between Lake Gökçe (Sevan) and the Aras valley in the north and to the Taurus mountains and Lake Urmia in the south between the 9th and 7th century BC.

The metal belts all indicate the expertise of the Urartu in metalworking and the arts. They are important because many have been found and the decorations on them provide information about the artistic and social life of the Urartu. The belts were made with embossing, stamping and line decoration techniques on a thin bronze plate and can be between 70 and 120 cm long and between 5.5 and 17 cm wide. Urartu metal belts are

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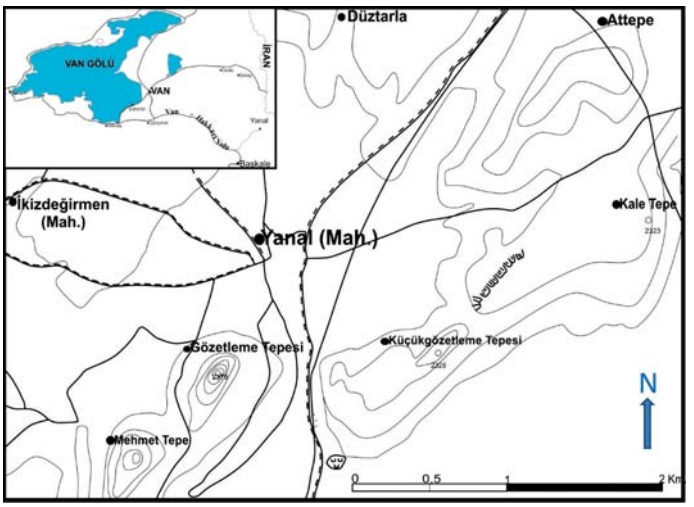

Fig. 1. Topographic map showing Yanal village in Başkale district, Van.

Fig. 2. Drawing of the scenes on the metal belt.

divided into three groups according to their width as narrow, medium and wide.[1] The belt investigated in this study (Inventory No: 2015/4971/A) is in the narrow group and is housed in Van Museum. The belt was found in an Urartu necropolis area immediately west of Yanal village/neighborhood 45 km from Başkale county in Van (Fig. 1). The belt contains panels with depictions of banquets, castles and different animal motifs (Figs. 2 and 3). While the double row of dot strips on this artifact were made with an embossing technique, all other decorations were made with engraving. The banquet scenes and castle motifs are elements applied on narrow belts with an eye for details. The depicted form of castle motifs on the belt are different from those depicted in other Urartu art forms and involve innovations.

The belt, formed by combining three pieces, was 79 cm long, 7 cm wide and 0.2 cm thick. The seven panels on the face of the belt are bounded by a double row of dots. Four of the panels depicting animals are arranged on two levels. The two castle motifs and the banquet scene are each contained within a single panel. The animal figures are depicted oriented toward the central scene – banquet scene – from the ends of the belt, a characteristic feature of narrow belts (Figs. 2 and 3).

[1] Kellner 1991, p. 36, Pl. 12-65; Çavuşoğlu 2002, p. 95.

Fig. 3. The metal belt found in pieces.

The scene at the far left of the belt is divided in two by a horizontal double row of dots in the center. Both friezes depict a total of ten wild sheep (female) figures with five above and five below, all oriented toward the central scene (toward the right) in running position. The notable thing about these two friezes is that in addition to the appropriate anatomical features of the animals, the scene looks extremely realistic and vibrant. The animals are in a row one after the other. Additionally, the facial features, wool covering the bodies, leg muscles and hooves are clearly depicted by the engraved lines. The difference between the two friezes is visible in the tails of the animals. The animals in the upper frieze have short tails with curly tips, while the animals in the lower frieze have short and straight tails (Figs. 2 and 4).

The scene at the far right of the belt is again divided in two by a horizontal double row of dots. Both friezes show a row of wild rams. These are again oriented toward the central scene (to the left). The upper frieze contains six, while the lower frieze contains five rams. The rams are depicted as vibrant and mobile, with clear anatomical features. The two horns extending sideways on the rams' heads, facial features, wool covering the body, leg muscles and hooves are clearly emphasized with engraved lines. The tails of the rams in running position are short and dip downwards. The positions of the rams in the right of the upper and lower friezes are different from the others. In the upper frieze, the ram at the back – at the far right – is up on its hind legs, almost beside the ram ahead of him and is depicted with smaller dimensions than the ones in front of him. On the frieze immediately below this, the ram at the far right is in a walking position (Figs. 2 and 5).

Fig. 4. Left section of the belt.

Fig. 5. Right section of the belt.

After the panels depicting rams on the far right and sheep on the far left of the belt, the next panels contain castle motifs.[2] The castle motif in the left section of the belt is understood to rise with adobe (mudbrick) main walls above a foundation of two rows of stones (Figs. 6, 4 and 7). The front of the castle comprises two wide faces between three high towers. On the right side of these faces there is an arched doorway, while on the left side there are two rows of three windows above each other. The arched doorway is decorated by a single row of dot embossing around the doorway. The door is double-leaf with one of the leaves shown to be open. The visible door leaf is decorated with embossing in the form of diamond slice motifs. The castle appears to have five tall towers, with three at the front and two at the back. There are a total of six windows on the three front towers, with two on each tower. The towers are topped with dentils. The lower section of the dentils and upper sections of the castle main walls are decorated with zigzag motifs containing dot embossing. Immediately below these decorations, a row of rounded wooden beam ends can be observed in a row and are understood to support the roofs of the towers and castle ramparts. The zigzag embossing observed on the towers and castle main walls may be considered to form grating type openings (balustrade). If they were constructed in this fashion, they would function as ramparts during defense of the castle against enemies.

[2] For castle motifs on narrow belts see: Taşyürek 1975, p. 22 Sketch 5, Photo 23; Erzen 1988, p. 37, Pl. 34a, b; Kellner 1991, p. 67, Cat. No. 254, Pl. 66, Cat. No. 255, Pl. 67, Cat. No. 261, Pl. 68, Cat. No. 269, Pl. 68-69, Cat. No. 275, 279, 282, Pl. 70-71; Ertman 1994, p. 65, Pl. 7.2.3; Ulasman 1996, p. 44, Photo 3, 6; Seidl 2004, p. 145-147, Photo 103-104, Pl. A, Pl. 39d, 40b, 42a, 43c, 44c, h, 45c; Çavuşoğlu 2007, p. 207-208, Sketch 1, Photo 1, 4, 7; id. 2014, p. 44-46, Pl. I/1-4.

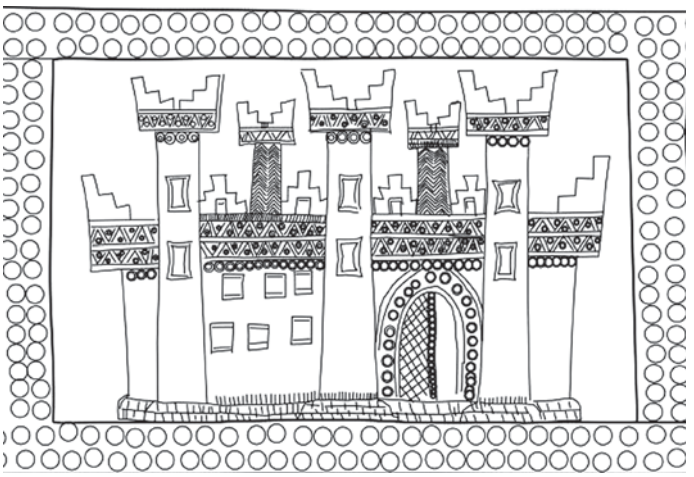

Fig. 6. Representation of castles on the belt.

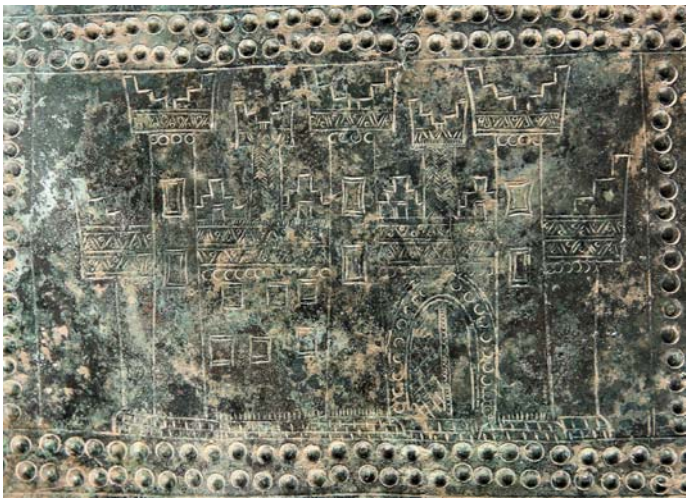

Fig. 7. Detailed image of a castle on the left section of the belt.

When the towers depicted at the front and back of the castle are examined, an attempt was made to give perspective to the motif. While the main walls of the front towers have windows on two levels, the ones at the back are shown with zigzag lines above each other (Figs. 6 and 7).

The castle motif in the right section of the belt has smaller dimensions compared to the one on the left and is understood to have been constructed directly on rough ground (Figs. 8, 5 and 9). We can see these types of castles on rough ground motifs in the New Assyrian period in records from the eighth expedition (714 BC) of Sargon (722-705 BC)[3] and depicted in embossing on the Balavat Bronze Gate[4]. The front of the castle contains

[3] Luckenbill 1968, p. II, 73-99.
[4] Gunter 1982, 104-105, Pl. Ia-d.

two broad faces between three high towers, similar to the castle motif in the left section of the belt. Of these faces, the left side has an arched doorway and the right has a total of four windows in two rows above each other. The surround of the arched doorway is decorated with a single row of dot embossing. Above this door there are two more windows observed. The door has two leaves, with one open. The visible door leaf is decorated with parallel sloping and vertical lines. The front of the castle has three high towers. The towers end with dendrils. Six of the dendrils and the upper sections of the main walls of the castle are decorated with zigzag motifs. Immediately below these decorations, instead of wooden beams found in other sections of the arch, there are vertical lines. Additionally, another aspect that separates this from the other castle is that there are no towers at the back. The most notable feature distinguishing this castle motif from the other motifs is that there is a ramp on the left side of the castle and a two-wheeled cart pulled by a bull is descending this ramp. This situation indicates the castle has an entrance on the left side. Beside the cart, there is a male figure with a military appearance wearing a pointed helmet. Below the helmet, his hair hangs down to his shoulders. With regular facial features, the person has a drooping earring in his left ear. This person holds an object like a stick in his right hand, while his left hand is bent at the elbow extending backwards. He is wearing a tunic extending below his knees with tassels ending in rings. On the body of the bull pulling the cart, the hairs are shown to end in rings at certain intervals. The body of the two-wheeled cart is covered with a low hipped roof. The triangular pediment of the cart body and a horizontal band in the center of the body are decorated with vertical lines (Figs. 8 and 9). The depiction of this vehicle leaving the castle probably represents a shipment to the other castle or to the banquet scene in the center of the belt. This shipment appears to indicate transport of goods from the small castle to the large castle, which looks to be the most likely to the authors. The upper section of a clay tablet obtained from Karmir-Blur (*Teişebaini*) mentions transport of leather obtained from animals, goat skins and woolen clothing between Urartu towns.[5]

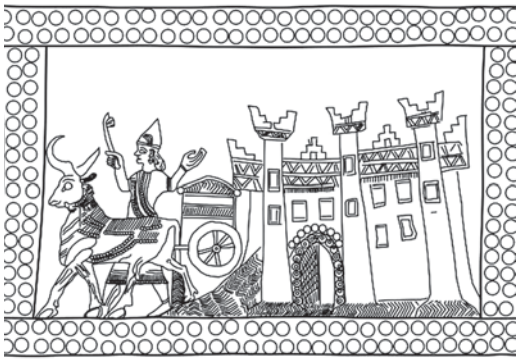

Fig. 8. Representation of castles on the belt.

[5] Translation of this tablet: *"God in the Aza country, to 'A' city, 26 calfskins…, buffalo… 12 woolen clothes, 14 (…) wool… 198 calf (buffalo) hides… 26 woolen clothes, 172 sheepskins, 16 goatskins".* UKN: annex no. 62; UPD: no. 10; UKN II: no. 463; KUKN: no. 52; Payne 2006, p. 327, 14.2.9.

Fig. 9. Castle on the right section of the belt.

We know from inscriptions that there were goods shipments between Urartu castles. Additionally, examples of the enclosure of the cart body and the pulling of the cart by a bull, as depicted on this belt, can be seen on two narrow belt groups. The first of these is in the Sadberk Hanım Museum[6], while the second is in the Jerusalem Museum[7]. The cart motifs depicted on the belts display similar characteristics with very few differences. However, the cart on our belt is differentiated from the others by the person driving the cart appearing to be a soldier and wearing a pointed helmet. The depiction of this military clothing gives the appearance that the goods carried in the cart are associated with official duties.

The reason for choosing castle motifs on narrow belts is not fully known. However, it may show the Urartu state had strong and mighty castles. Additionally, these motifs are very important in terms of providing information about the structure of Urartu castles and Urartu architecture. Apart from Urartu castle motifs on belts, we can see them on votive plaques[8], a bronze plaque from Toprakkale[9], stone embossing from Adilcevaz[10], embossing on the Balavat bronze door[11] and in records from the eighth expedition of Sargon (722-705 BC)[12].

The panel to the left of the central banquet scene is divided in two with a horizontal double row of dots in the center. A small section is missing in the central part of the upper frieze. Both friezes depict wild mountain goats (Figs. 2, 4 and 10). Like the other animals, these face toward the central scene (to the right). The upper frieze contains eight and the lower frieze contains six wild mountain goats. The front legs of the wild mountain goats

[6] Anlağan 1998, p. 51-59, Sketch 1, Photo 1.

[7] Seidl 2004, p. 148, Taf. 44/a.

[8] Kellner 1982, Pl. 5/2, 6, 7, 6/7, 7/5, 7, 8/1, 5, 9/2; Kleiss 1982, p. 56, Photo 2.

[9] Barnett 1950, p. 5, Pl. I.2; Piotrovsky 1967, p. 59, Sketch 41; Merhav 1991, p. 302 ff., Sketch 3; Çilingiroğlu 1997, p. 63, Sketch 3.

[10] Kleiss 1982, p. 65, Photo 9; Çilingiroğlu 1997, p. 141, Sketch 32.

[11] Assyrians depicted castles and towns they conquered during their expeditions in Urartu in door and palace embossing thus explaining historical events. Gunter 1982, p. 104-105, Pl. Ia-d.

[12] Luckenbill 1968, p. II, 73-99.

depicted in the upper frieze are in the air, while the hind legs are on the ground and they are depicted running after each other. In the lower frieze the mountain goats are depicted in different positions. Here, the craftsman making the belt appears to have had the aim of adding motion to the scene. The wild mountain goats depicted at the very left of the lower frieze are facing each other (antithetic). They appear to be struggling with each other. Of the goats ahead of these, the third has one front leg bent at the knee touching the ground. Two have heads turned backwards. The head of one is tilted upwards. One is on two legs with the head tilted forward, depicted in ramming position. The goats are depicted in very vibrant fashion with a sense of movement and appropriate anatomical features. The horns curling backwards on the goats' heads, facial features, wool covering their bodies, leg muscles and hooves are clearly emphasized by the engraved lines. The tails of all goats are short and point upward (Fig. 10).

The panel to the right of the banquet scene in the center of the belt is divided in two by a double row of embossed dots. The upper frieze contains seven bird figures understood to be birds of prey due to their beaks with wings open to two sides (Figs. 2 and 11). The winged bird figures are elements commonly used on narrow belts. These possibly symbolize the power of the sky[13]. They face towards the central scene (to the left). The birds' heads, body, legs, claws and tails are very clear and expertly fashioned. The animals were depicted with clear anatomical features. The wings, tail and body feathers are emphasized by densely engraved lines. The bird found at the right of this frieze is depicted with smaller dimensions compared to the other birds. It is difficult to determine what species these birds of prey are.

Fig. 10. Scenes with mountain goats on the belt.

Fig. 11. Scenes with birds of prey and gazelles on the belt.

[13] Belli 1981, p. 72 ff.

On the frieze below the bird figures, we see gazelles again facing towards the central scene (Figs. 2 and 11). The wild gazelles are shown in different postures to give a sense of movement. The two gazelles at the very left and the very right of the frieze are depicted on one knee. The first gazelle on the left and two on the right are bent on their knees. The second gazelle at the right has his head turned backwards, while all other gazelles face forwards. The rest have front feet in the air, with hind feet on the ground, suggesting running. One looks backwards. Their tails are short and point upwards. The bodily dimensions of the animals were fashioned in accordance with their true structures. The hairs on the body are emphasized again by dense thin engraved lines.

The panel in the central section of the belt contains a banquet scene (Figs. 2, 13 and 12). A noble woman (queen?) with her head covered sits on a chair with a back and lion feet. In front of her there is a table with food and in front and behind the table are women serving the noble woman. On her chair is a decorated cover draping down the back with tassels and the outer edges of the chair are decorated with dots. The woman's head is covered, she wears a belt and clothing decorated with rose motifs extending to her ankles. The headscarf with decorated tips extends to her waist. The noble woman has earrings in her ears, a necklace around her neck and bangles on her wrists. The woman holds a bowl in her right hand bent upwards at the elbow, while her left hand reaches towards the table of food. The table has two knotted feet in semicircular form. Just like the chair, the outer surface of the table is decorated with dot embossing. On the table there is an arc-shaped bread and three bowls. The central bowl contains food raising far above the rim. The food has been covered with a cloth. There is a large container under the table. The container is decorated with zigzag motive within horizontal bands and drop motifs in the bottom section. Immediately right of the table, a standing servant reaches toward the food with her left hand, while the right hand is held up and holds an object like a knife. The skirt section of this servant's clothing is decorated with cross motifs. The standing female servant immediately behind the seated noble woman (queen?) has two objects shaped like fans in her hands. The right hand is a narrow fly swatter used to deter flies[14], while the rectangular fan raised in her left hand is used for cooling. The two servants are wearing garments extending to their ankles with flower rosette motifs. The heads of the female servants are bare and their hair reaches their shoulders. Both have earrings like those in the ears of the noble woman seated on the throne (Figs. 13 and 12).

Fig. 12. Central section of the belt with a banquet scene.

[14] Albenda 1986, p. 81 ff.

Fig. 13. Banquet scene on the belt.

This belt displays common features to the banquet scenes frequently observed on narrow belts[15]. Generally, women serve a woman seated on a backed throne with her head covered, with a table in front of her filled with food.

It is possible to see animals similar to those depicted on this belt on many Urartu belts.[16] The wild sheep (male and female) seen on this investigated belt figure on many narrow belts. The depiction of wild goats and gazelle motifs are again found on belts, as well as those of birds of prey.[17]

The depictions on this belt which aid in its dating are important elements showing the small and six-spoked wheels of the cart along with the decorative patterns. Urartu craftsmen followed New Assyrian artists. Though this cart is a transport vehicle, the carts used for war and hunting by Urartu and New Assyria at the end of the 9th century BC and first half of the 8th century BC are similar as they had six-spoked small wheels.[18] Contrary to this, after the middle of the 8th century BC, the cart wheels became larger and generally had eight spokes. In Urartu art, from the beginning of the 8th century BC, dot embossing decoration was found on belts and is known to be commonly used on inscription belts until the end of the kingdom.[19] The style of the topic depictions on this belt, divisions and areas with divided panels are bounded by embossed dots. Additionally, the style of the female figures' dress and decoration of the clothing with rose rosettes are important factors to date the belt. Instead of rose decorations during the 8th century BC, within the 7th century BC generally decorative patterns comprising nested square motifs were used. It is possible to see good examples of this on many artifacts obtained from Toprakkale in Van.[20] As a result, with regard to features such as the inclusion of thematic panels on the belt, the embossed dot decorations and rose decorative motifs on female clothing, we dare say that this belt was produced between the 8th and 7th century BC.

[15] Kellner 1982, p. 66-71, Taf. 67/256, Taf. 69/262, 263, 269, Taf. 70/279, Taf. 71/282; Seidl 2004, p. 143, Abb. 102; Çavuşoğlu 2017, p. 147-155; Çavuşoğlu 2018, p. 172-179.

[16] *Ibid.*, p. 37-38, Pl. 23-24, 26.

[17] Kellner 1982, Taf. 66-71; Çavuşoğlu 2018, Pl. XXIII-XXVII.

[18] Özgen 1983, p. 118; Calmeyer 1986, p. 81, Fig. 3; Merhav 1991, p. 53-54; Çavuşoğlu 2018, p. 367 ff., Fig. 1-5; *Ibid.*, p. 50.

[19] Seidl 2004, p. 153, Abb. 113/d.

[20] Wartke 1990, p. 31, Taf. I, XLIII/ab.

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PRE-POTTERY NEOLITHIC PERSONAL ORNAMENTATION
Observations on the Beads of Canhasan III

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Abstract

The bead and pendant assemblage of Canhasan III, consisting of stone, bone, clay and glass artefacts, has been stored in Karaman Museum since the excavation of the site finished in 1970. Here the artefacts are described and set in context for the first time. Although this is a small assemblage the beads and pendants of the Pre-Pottery Neolithic site add to the increasingly rich picture of prehistoric personal ornamentation in the Konya Plain area. Comparison with assemblages from other sites in the region and further afield places the assemblage in its wider context as part of a connected landscape of interactions and exchanges, including links to the traditions of the Euphrates Basin. Evidence for on-site manufacture of ornaments from locally available raw materials shows that juxtaposed with the long-distance procurement of some ornaments local ornament technologies were also in place. This was to be expected given the similar combinations of ornaments at other sites in the region.

INTRODUCTION

The site of Canhasan III was excavated by David French for two periods in 1969 and 1970 with the specific aim of understanding the early agricultural development in the central Anatolian region. On the basis of survey evidence the site had been suspected to be aceramic Neolithic and the absence of pottery from all but the uppermost layers confirmed this (French 1969). The use of pioneering flotation technology meant that recovery rates for materials were very high (French 1971). The artefacts from these limited excavations are now located in Karaman Museum and, with the encouragement of David French, the beads from both Canhasan I and III were studied in the summer of 2014 in the museum depot. The Canhasan I ornaments have already been published (Baysal 2017a), this article describes the bead assemblage recovered from the site of Canhasan III during its two excavation seasons.

The material was studied by the author with the aim of identifying materials and forms, and using low level microscopy to identify production technology. All artefacts were photographed and described. Here consideration is made of how this, albeit relatively limited, assemblage relates to those of other sites in the region of both earlier and later date, with

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particular reference to the beads of Canhasan I, Çatalhöyük, Boncuklu Höyük and Pınarbaşı. This regional data helps to set the Canhasan III beads within their wider geographical context and also to understand regional developments in ornament usage through time. Despite the small sample size, Canhasan III's assemblage of 60 beads is sufficient to contribute to our understanding of raw material choices and add to the picture of distinct technological and qualitative differences in personal ornamentation practices through time.

This article is dedicated to the memory of David French and his invaluable work on Anatolian prehistory.

The excavation and dating of Canhasan III

The low 100m × 100m mound site of Canhasan III is located 13 km to the north east of the provincial capital Karaman in central Turkey (Fig. 1). The brief excavations concentrated on a deep sounding to assess the temporal extent of the deposits and stratigraphy as well as a single open excavation area / surface scrape. It was found that there remain 6.75m of deposits of which 2.5m lay above the current level of the alluvial plain deposits. This has since decreased as a result of ongoing agricultural activity on the site. These investigations revealed mud-built pisé houses with clay-plastered floors. Architecture seems to have been built in sequences as was also the case at Boncuklu Höyük and Çatalhöyük, such that 'stacks' of buildings developed in a single location (see French *et al.* 1972 for descriptions). The preliminary report on the excavation mentions a number of bone beads, including a group of 15, that were recovered in association with the same sequence of floors from which came a series of perforated spatulae (French *et al.* 1972, 189). Confidence in recovery of very small artefacts, including beads, is high as a result of the intensive recovery methodology that was used due to the project's focus on faunal and botanical remains and the documentation of early evidence for agriculture (French *et al.* 1972, 182; French 1971).

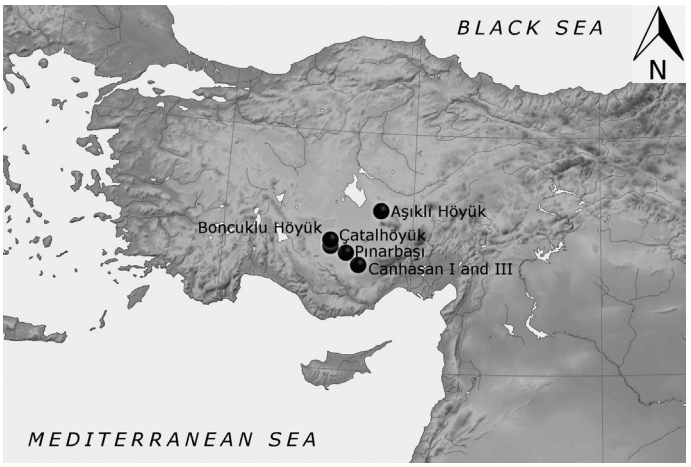


Fig. 1. Location map of Canhasan III and other sites mentioned in the text.

The original set of radiocarbon dates place the site between the mid 8th and beginning of the 7th millennia cal. BC, possibly between around 7600 and 6600 cal. BC (Thissen 2002; Table 1) making it later than, or slightly overlapping Boncuklu Höyük, later than the earliest settlement of the central Anatolian Konya Plain area, Pınarbaşı, but still earlier than and partially overlapping with Çatalhöyük. The current modelling of Çatalhöyük radiocarbon dates place its earliest levels around 7100 BC (Bayliss *et al.* 2015), possibly placing Canhasan III several hundred years earlier. A new radiocarbon dating project for Canhasan III that aimed to eliminate problems caused by long-life samples and stratigraphic confusion, has concluded a date for the earliest of the excavated material lies around the middle of the 8th millennium and the site was abandoned around 7050 cal BC (Fairbairn *et al.* in press). It is therefore confirmed to be an aceramic Neolithic settlement, with no overlap with later Canhasan I.

The bead assemblage

A total of 60 beads from the excavation are inventoried in the Karaman Museum catalogue (Table 2), of these 46 are from Neolithic contexts, the remainder being surface finds. Many of the surface finds can be dated to the Neolithic levels on the basis of typological and material similarities to the artefacts in secure contexts in conjunction with the relative lack of later period deposits at the site with which they could be confused (apparently a single large Ottoman pit, French *et al.* 1972, 182). A burnt multi-coloured glass bead, described below, is the single obvious exception to the Neolithic artefacts. The vast majority of the beads are of stone (52), with a general preference for softer materials such as limestone but with a number of items made from much harder volcanic rocks. The remainder of the assemblage is bone (7) and clay (1).

Typology and description

Stone

The majority of the stone beads (37 of 52) are of a simple disc form (here broadly defined as Beck types A.2b and B.2b, Beck 1928, Plates 2 and 3; Table 3) and small in size (Table 2). The beads have not been separated into different types according to ratios of diameter and length as this potentially introduces artificial distinctions in type, which are not statistically supportable, as shown in Figure 2. Some were made from limestone while others were made from volcanic stones such as gabbro. Both these stone types reflect the locally available stone sources, the nearest of which to Canhasan III is the Karadağ which is easily visible from the site (Fig. 1). The discs vary in colour from cream to dark grey, with a few brighter examples in shades of reddish orange, however the overall effect is quite drab. This suggests that location of stone sources (proximity) was more important than specific aesthetic considerations among those making the beads.

Two unfinished large disc or rounded beads (Fig. 3 bottom left), one of marble and the other of limestone, evidence on-site stone bead production. Both show that the blanks

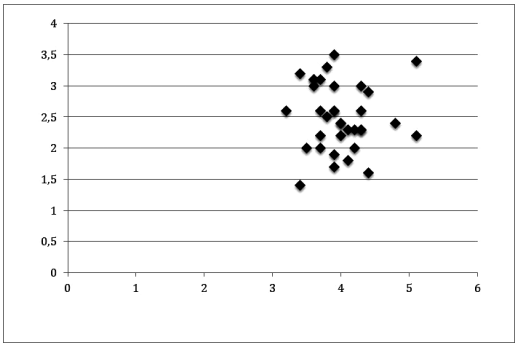


Fig. 2. Disc bead diameter against length (mm).

were chipped to a rough shape and had their ends abraded into flat surfaces before being drilled from both sides. In the case of the limestone example breakage occurred as a result of the perforation process which appears to have been carried out manually (slow drilling without drill apparatus). The attempted perforation was angled from both sides and failed to meet accurately. The marble example was perforated successfully and the reason for abandonment is not clear.

There is a single example of a small rounded bead of bi-tonal (dark grey and white) marble (Fig. 3 bottom right), this is a variation of the otherwise very standardized disc form (resembling Beck 1928, Plates 2 and 3 B.1.f). The edges are quite rounded and there is distinct faceting caused by the abrasion used to shape the bead. The finished item is, however, more striking in appearance than the standard discs.

The remaining 15 stone beads and pendants are very varied in form, rendering typological grouping impossible. They are described here individually according to properties of material and form. The largest and most visually striking bead of the assemblage is made from a conglomeritic rock such that the polishing of the bead created patterns of beige and black (Fig. 3 left middle). Although broken along the central perforation it can be determined that the form was a symmetrical 'butterfly' shape with thin 'wing' areas and a thick middle ridge housing the perforation. The perforation is long, tapers towards the middle in an extended hourglass shape, has well defined concentric marks made by the rotary drilling and, having been drilled from both ends, meets neatly in the middle. A drill bit of at least 10mm length would have been required. The bead was very neatly shaped and finished and the surface was polished.

A seal-like pendant made from orangey brown and mid-grey marble consists of a round flat base that curves up in a concave bell form to a narrow, rounded point, close to which the perforation is located (Fig. 4). The perforation is very wide in its openings, having been made from both sides, but the hole itself is narrow (1.5mm), creating a pronounced hourglass profile to the hole. A slight breakage to the circular base of the pendant was mended by abrasion leaving some scarring. There are scratches on the large round flat surface but no other marks. It seems unlikely that an incised design was intended for the item given that a repair had already been carried out, suggesting instead that the pendant had probably already been in use. Whether this represents a true antecedent of the similar and very familiar seals that appear from the end of the Neolithic onwards (for examples see Denham 2013) remains to be seen.

Fig. 3. Stone beads from Canhasan III.

Fig. 4. Stone pendant from Canhasan III.

A simple oblong barrel form bead (Beck 1928, Plates 2 and 3 D.1b) of dark grey, hard homogenous material (Fig. 3 top right), probably obsidian, broken along the perforation, was originally either round or slightly lenticular in section. The bead is very well finished, the surface is even and polished and the perforation, although it must have been drilled from both ends, is so neat that there are no visible drill marks at 10× magnification.

Simpler bead making is seen in the example of a small smooth cream coloured pebble, which was drilled from both sides with a wide bevelling to create a miniature pendant bead (Figure 3 middle right). There does not seem to have been any further surface treatment.

A number of pieces of natural limestone formations with natural holes were included with the assemblage, most were discarded as they showed no evidence of wear or shaping, and their recovery from mudbrick wall contexts suggests that they might have been accidental inclusions that arrived at the site as part of architectural activities. Of the more likely candidates as possible natural beads, it is still not possible to say for certain whether these were used as ornaments, although some of them have a surface wear that suggests they might have been handled and worn. One of these bears a strong resemblance to the red deer canine form and perhaps it might have been deliberately brought to the site for this reason.

Bone

Fifteen bone beads are reported in the initial excavation publication of Canhasan III (French *et al.* 1972, 189). These were not encountered in Karaman Museum in 2014, however six bone beads and a bone pendant, all from Neolithic contexts are recorded in the inventory lists and were studied accordingly. The beads range in form from disc to tube, most are made from small mammal long bones. Cut marks are still present at the end of some of the tube beads, indicating groove and snap technique. A similar method of production is also indicated in the examples illustrated by French *et al.* (1972, 189). One bead was abraded until almost spherical and shows signs of wear on all surfaces, some faceting remains from the initial shaping process. Polish to outer surfaces and at the ends of the tubes indicates stringing and use for some period of time. The single pendant in the museum inventory (Figure 5) is made from a piece of larger mammal long bone, the

Fig. 5. Bone pendant from Canhasan III.

shaping is very rough, as if a chip of bone was simply fashioned into a pendant. Perforation was carried from both sides, and is relatively rough as if done by hand with a fairly large chipped stone tool. There are significant abrasion striation marks across the grain of the bone on front and back surfaces, neither front nor back surface is well shaped, although the edges were rounded and smoothed. French (1972, 189 Plate 2) reported that more of such pendant bones (referred to as perforated spatulas) were found in association with bone beads in 'a series of floors'. As a picture of only one of these has been published it is impossible to know whether they were all the same form.

Overall the bone bead technology and the nature of manufacture seems to have been simple, the quality of finish is not of the standard achieved in stone beads and perhaps these items were seen as more expendable.

Clay

There is a single example of a pale coloured clay item with a hole through it, with a rounded triangular profile and broken ends, which is in poor condition. Whether this was ever used as a bead is not clear.

Glass

The most complex bead of the assemblage has a very open structure, somewhat pumice-like in appearance, is large and roughly spherical (Fig. 3 top). The bead is the only example of a decorated ornament, with incised patterns including lines and zigzags around the circumference of the object. The patterns are formed of an orangey-yellow material. Although it is not possible to tell for certain without chemical analysis it is likely that this is a glass bead that has been subjected to heating that has caused it to lose its original structure and colour and caused a bubbling effect. It may be that this was a poor quality or failed production or that after use it was exposed to heat, perhaps thrown in a fire and then discarded. It is likely to have come from the Ottoman deposits mentioned by French (1972, 182).

Context and comparison

As can be clearly seen from the site plan of the Canhasan III exposure published by French and colleagues (1972, 185) the site was densely packed with buildings and the beads and pendants reported here all derive from either habitation levels, building fills or building materials. None were recovered from burial contexts so there is no direct evidence for use on the body. Unfortunately, no more detailed context information is available from the site. It is notable that no marine shells are counted among the ornaments either in written project reports or in the Karaman Museum catalogue. Given that they are present in every other ornament assemblage of this period in Anatolia, as well as in all other prehistoric periods, it is assumed that their absence is because they were either not picked up/recognised or perhaps sorted and stored with the faunal or flotation and wet sieving fractions.

Apart from the lack of marine shell, the general composition of the assemblage meets that expected for the period; stone, and particularly disc beads of stone, are prevalent. The predominance of small disc beads at Canhasan III is in accordance with evidence from other sites in the region and further afield of the popularity of this simple form in the Neolithic period (Bains *et al.* 2013; Baysal 2013a; Bar-Yosef Mayer 2013). There is an obvious difference in the quality of the disc beads recovered from Canhasan III and the earlier 10th-8th millennia cal. BC settlements of Pınarbaşı and Boncuklu Höyük (Baysal 2013a). Drilling technology had changed from very uneven hand drilling resulting in highly bevelled profiles to the holes (hourglass bi-directional piercing, Table 3) (Baysal 2013a) to almost uniformly straight perforations with no evidence of working visible at 10× magnification. This suggests both higher speed drilling and finer more accurate drills and working, and certainly indicates that mechanical drilling, with a pump or bow drill, had become the norm at the site by this stage. The later Canhasan I site shows a further development in the use of much smaller disc beads of more standardized size (Baysal 2017a). It is possible therefore to identify a broadly linear trajectory towards neater and more consistent production of disc beads at a regional level, suggesting gradual improvements in both tools and skills through time.

Use of local materials is a feature of ornament production from the very earliest settlement of the area. This includes both highly modified beads as well as the opportunistic use of pebbles. This preference is best exemplified in disc bead production in which all sites in the region made use of the soft, easily workable local limestones as their primary source of material (Bains *et al.* 2013). Boncuklu Höyük has provided ample evidence of perforated pebbles, worked with little skill (Baysal 2013a) and it appears that Canhasan III shared similar practices, despite the presence at the site of more complex bead production technologies.

While local materials and simple forms appear at all the central Anatolian sites, there is a significant change from around 6600-6300 BC including diversification in materials and forms that has already been recorded at Çatalhöyük (Bains *et al.* 2013) but which is now known to be more widespread (Baysal 2017b).

Looking at the earliest evidence of bead use in the Konya Plain area, the assemblages from Pınarbaşı and Boncuklu Höyük, followed by Canhasan III and Çatalhöyük, show that there is a consistent use of simple stone beads and marine shells from the beginning of the Neolithic onwards. Any diversity that is seen in form and material is attributable to either items imported from areas to the southeast, or to ideas copied from that region.

The single fine quality butterfly bead in its distinctive multi-coloured conglomerate material is technologically and formally different from the rest of the small Canhasan III assemblage. This form is strongly linked to the Euphrates basin, belonging to a tradition that begins at the Epipalaeolithic / PPNA transition and continues throughout the Neolithic period (see Alarashi 2016 for detailed discussion). The specific link of these beads with the Euphrates basin region, and their technically challenging nature and the specific chipped stone drills on which manufacture relied (Coşkunsu 2008) make them a candidate for early specialized production and restricted knowledge (Baysal 2013b). This bead can be interpreted as an import from the southeast, possibly arriving at Canhasan as a result of exchange or gift giving. The movement of such beads is known from other sites of both

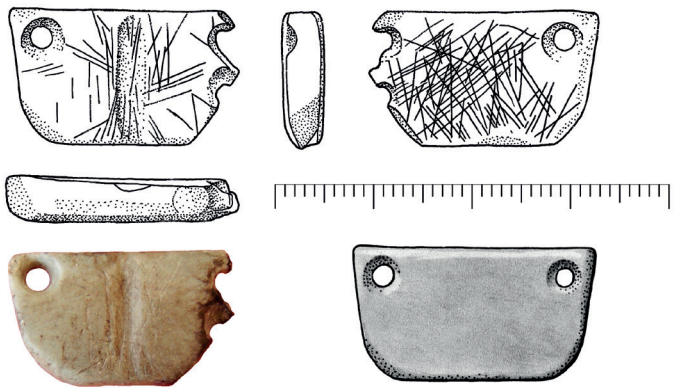


Fig. 6. Possible imitation repurposed butterfly bead from Boncuklu Höyük.

contemporary and later date, for example Aşıklı Höyük in Cappadocia (Yelözer 2016) and Suluin and Karain Caves in Antalya (Baysal in prep.). There are possible imitations of these forms in central Anatolia at Boncuklu Höyük where very specific 'plaque' shaped beads with two perforations close to their corners (Fig. 6) appear to mimic broken and repurposed butterfly beads recorded at Mezraa Teleilat (Özdoğan 2011, 257-8). The place of manufacture of the Boncuklu examples is unknown. These examples hint at a complex symbolic and performative material cultural world in both the Pre-Pottery and Pottery Neolithic period that may have had varying intensities of influence over a wide geographic area.

Bone beads have a much more mixed history in the region with by far the most intensive and complex use of animal bone and teeth in ornamentation belonging to Çatalhöyük. The earlier Neolithic sites, Pınarbaşı, Boncuklu and Aşıklı (Yelözer 2016), all exhibit a much less developed use of bone ornaments that relied on expedient use of small animal long bones, divided into tubes using the groove-and-snap technique. Although not all the beads reported from the excavation were inspected in Karaman Museum, French's published photograph suggests that these beads also followed in the same tradition. They would have required little skill to make and relied on bone material that was readily available as a side product of hunting activities. It is possible that the species chosen were of some significance but there is not enough data available to distinguish patterns in bone choice.

Discussion

The small bead and pendant assemblage of Canhasan III adds to our understanding of the development of personal ornamentation in the intensively researched Konya Plain area. A general trajectory through time towards improvement in quality of technology and production skills can be proposed. On the basis of the limited evidence it is possible to say that simple disc shaped stone beads formed a core of all the ornaments assemblages from the region so far studied. The remainder of the assemblage of each site exhibits quite varied characteristics and is based largely around local raw materials and simple technologies including the use of perforated pebbles.

There are some indications that this region shared some connection with southeast Anatolia and specifically the Euphrates region from which a slow but steady flow of both beads and influence in ornamentation seems to have come.

ACKNOWLEDGEMENTS

The study of the Canhasan III material in Karaman Museum, carried out with the kind support of David French and was generously funded by grants from the Mediterranean Archaeological Trust and the British Institute at Ankara. The work was carried out with permission from the Turkish Ministry of Culture and Tourism to whom I extend my sincere thanks.

Lab. no.	**Date BP**	**±**	**Cal BC 1σ (from)**	**Cal BC 1σ (to)**	**Material**	**Level**	**Provenance**
BM-1667R	8480	110	7610	7360	Charcoal	162F2	Trench 49L
BM-1666R	8460	150	7660	7300	Charcoal	162F	Trench 49L
BM-1665R	8270	160	7490	7080	Charcoal	158F	Trench 49L
BM-1664R	8470	140	7650	7320	Charcoal	156F	Trench 49L
BM-1663R	8350	210	7590	7080	Charcoal	149F	Trench 49L
BM-1662R	8460	110	7600	7360	Charcoal	148F	Trench 49L
BM-1660R	8390	140	7590	7200	Charcoal	63F	Trench 49L
BM-1658R	8060	130	7190	6760	Charcoal	29F	Trench 49L
BM-1657R	8080	130	7290	6810	Charcoal	28F3	Trench 49L
BM-1656R	8090	170	7320	6780	Charcoal	17F	Trench 49L
BM-1655R	7980	120	7060	6700	Charcoal	6F	Trench 49L
HU-11	8584	65	7660	7540	nd	nd	Trench 49L, near basal layers
HU-12	8543	66	7610	7530	nd	nd	Trench 49L, basal layer
HU-9	7874	70	7000	6630	nd	nd	Trench 49L, near summit
HU-10	7796	140	6900	6460	nd	nd	Trench 49L, near summit
OxA-388	7910	160	7050	6640	Charred grain	Basal level	Trench 49L

Table 1. Radiocarbon dates for the site of Canhasan III (Thissen 2002; Bowman *et al.* 1990; Ergin 1979; Gowlett and Hedges 1987; http://www.14sea.org).

Museum Inventory number	Find number and trench	Unit number	Form	Diameter / width	Length / thickness	Perforation diameter	Perforation type	Material
Stone								
985	III/69/3 – 49K	202.6 S	Pendant	18	19.8	1.5	Bidirectional	Marble
1052	III/69/69 – 49L	103.1	Disc	3.7	2.2	2.2	Straight	Volcanic
1053	III/69/70 – 49L	103.2	Disc	3.6	3	1.6	Straight	Limestone
1054	III/69/71 – 49L	103.4	Disc	3.9	3	1.7	Straight	Andesitic
1058	III/69/75 – 49L	105.2	Tube	3	5.5	1.1	?	Limestone
1059	III/69/76 – 49L	100.3	Tube	3.8	7.2	1.6	?	Limestone
1062	III/69/794 – 49L	105.4	Tube	4.7	20.7	2.2	Straight	Limestone
1062	III/69/79F – 49L	105.4	Disc	4.2	2	1.6	Straight	Limestone
1062	III/69/79 D – 49L	105.4	Disc	3.7	3.1	1.8	Straight	Limestone
1062	III/69/79 C – 49L	105.4	Disc	3.8	2.5	1.6	Straight	Limestone
1062	III/69/79 E – 49L	105.4	Disc	4.3	2.3	1.9	Straight	Limestone
1062	III/69/79 B – 49L	105.4	Disc	3.5	2	2.2	Bidirectional	Limestone
1063	III/69/80 – 49L	105.3 W	Disc	4.1	2.3	1.7	Straight	Limestone
1072	III/69/89 – 49F	928.5	Disc	5.1	2.2	1.9	Straight	Limestone
1139	III/69/156 – 49L	101.2 W	Tube	3.8	4.2	1.8	Straight	Volcanic
1140	III/69/157 – 49L	105.1	Disc	4	2.2	1.3	Straight	Volcanic
1140	III/69/157 – 49L	105.1	Disc	3.9	3.5	1.5	Straight	Volcanic
1141	III/69/158 – 49L	104.5	Disc	3.7	2.6	1.9	Straight	Volcanic
1142	III/69/159 – 49L	105.3	Disc	4.2	2.3	1.8	Straight	Limestone
1143	III/69/160 – 49F	927.3	Large flat	11	21.2	2.1	Bidirectional	Conglomerate
1144	III/69/161 – 49F	927.3	Disc	3.6	3.1	1.2	Straight	Volcanic
1145	III/69/162 – 49F	924.1	Disc	4	2.4	1.6	Straight	Volcanic
1145	III/69/162 – 49F	924.1	Uneven disc	4.2	3.3	1.1	Straight	Limestone
1146	III/69/163 – 49F	927.1 W	Disc	3.4	3.2	1.9	Straight	Volcanic
1146	III/69/163 – 49F	927.1 W	Disc	4.4	2.9	1.6	Straight	Limestone

Museum Inventory number	Find number and trench	Unit number	Form	Diameter / width	Length / thickness	Perforation diameter	Perforation type	Material
1147	III/69/164 – 49F	927.5 W	Oblong	4.2	8	1.5	Straight	Silicious
1148	III/69/165 – 49F	921.2	Disc	3.9	2.6	1.8	Straight	Volcanic
1149	III/69/166 – 49F	923.1, 922.1	Disc	5.1	3.4	1.6	Straight	Volcanic
1150	III/69/167 B – 49F	920.1	Disc	3.9	1.9	1.7	Straight	Marble
1150	III/69/167 F – 49F	920.1	Disc	4.8	2.4	1.4	Straight	Limestone
1150	III/69/167 D – 49F	920.1	Disc	3.2	2.6	1.2	Straight	Marble
1150	III/69/167 A – 49F	920.1	Disc	4.3	3	1.6	Straight	Limestone
1150	III/69/167 G – 49F	920.1	Disc	3.7	2	1.8	Straight	Limestone
1150	III/69/167 C – 49F	920.1	Disc	3.9	1.7	1.5	Straight	Marble
1150	III/69/167 E – 49F	920.1	Tube	3.9	10	1.7	Natural	Limestone
1150	III/69/167 – 49F	920.1	Tube	10.5	28.6	3.6	Natural	Fossil dolomite
1151	III/69/168 A – 49T	950.4	Disc	4.3	2.3	1.5	Straight	Limestone
1151	III/69/168 – 49T	950.4	Disc	3.8	3.3	1.4	Straight	Limestone
1153	III/69/170 – 49T	951.1	Disc	4.3	2.6	1.7	Straight	Volcanic
1154	III/69/171 – 49B	900.9 W	Disc	4	2.4	2	Straight	Volcanic
1155	III/69/172 E – 49B	900.12 W	Disc blank	15.5	5.6	2.6	Bidirectional	Limestone
1155	III/69/172 D – 49B	900.12 W	Disc	3.9	2.6	1.8	Bidirectional	Limestone
1155	III/69/172 A – 49B	900.12 W	Disc	3.6	3.1	1.5	Bidirectional	Limestone
1155	III/69/172 B – 49B	900.12 W	Disc	4.4	1.6	1.6	Bidirectional	Limestone
1155	III/69/172 C – 49B	900.12 W	Disc	3.4	1.4	1.2	Bidirectional	Limestone
1512	III/70/227 – 49N	815.1	Disc blank	10.6	5	1.3	Bidirectional	Marble
1513	III/70/228 – 49K	860.1	Canine shape	11.2	16.9	2.2	?	Limestone
1514	III/70/229 – 49K	820.1	Small pendant	9	10.1	1	Bidirectional	Marble
1516	III/70/230 – 49N	815.1	Pebble pendant	18	24	4.6	Natural	Limestone
1518	III/70/232 – 49L	110.3	Disc	6.6	2.9	1.3	Bidirectional	Marble
1519	III/70/233 – 49L	110.6	Disc	4.1	1.8	1.8	Straight	Volcanic

Museum Inventory number	Find number and trench	Unit number	Form	Diameter / width	Length / thickness	Perforation diameter	Perforation type	Material
Bone								
1003	III/69/21 – 49L	105.6	Pendant	11.9	35.7	2.5	Bidirectional	Bone
1047	III/69/64 – 49L	101.5	Tube	5.9	6	2.8	Natural	Bone
1063	III/69/80 – 49L	105.3 W	Uneven tube	3.2	5.4	2	Natural	Bone
1066	III/69/83 – 49L	105.35	Tube	6.1	32.9	4.6	Natural	Bone
1070	III/69/87 – 49F	928.1	Disc	11.1	3.2	6.7	Bevelled	Bone
1071	III/69/88 – 49F	927.43	Tube	4.3	10.2	2.2	Natural	Bone
1489	III/70/204 – 49K	860.1	Tube	4.4	11	2.8	Natural	Bone
Clay								
1072	III/69/89 – 49F	928.5	Tube	5.4	7	2.8	Straight	Clay
Glass								
1152	III/69/169 – 49T	950.5	Sphere	22.5	18.5	5.7	Straight	Coloured glass

Table 2. Canhasan III beads in the Karaman Museum inventory.

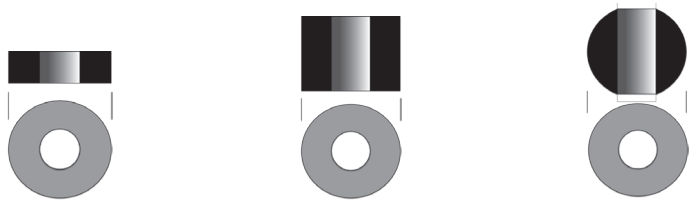
Forms	Disc	Tube	Sphere
			
Perforations	Straight	Bidirectional	Bevelled
			

Table 3. Basic standard bead forms and perforation types.

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THE MOUNTAINOUS ŞIRNAK REGION SURVEY (SE ANATOLIA) 2017-2018 SEASONS

First observations on 'dirhes' (tower-shaped buildings)

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Abstract

Systematical archaeological researches conducted since 2017 in Southeast Turkey, Şırnak mountainous region, have made a major contribution for the archaeological background of the region. In this article, we present the conclusions of the research during 2017-2018. Tower shaped architectural remains which seem to belong to distinctive customs for the area and other related remains have been examined. As a result of the survey carried out through the high altituted area between Gabar Mountain, which is surrounded by Tigris in west and east; and Kato Mountains on Şırnak border, 52 dirhes, 2 fortresses, 4 chamber tombs, 2 quarries, 3 settlements on hills which date to a single period have been determined. Tower shaped buildings that are stasistically prominent and purposely located on crucial points of deep valleys are called as dirhe by locals. The results of the survey put forth that the dirhes are not randomly positioned but they are on a certain route and organised in a way that the towers were able to see each other. The dirhes look like an element of an advanced communication and defense system, yet they do not provide sufficient data or material for an exact dating. In consideration of Urartian and Assyrian written sources and the present archaeological data, it is presumed that the dirhes are related to the political organisation of Iron Age. On the other hand, during the survey on this mountainous region, no archaeological material or data related to Urartians to the north, nor Assyrians to the south has been determined.

Introduction

Located in southeastern Anatolia, Şırnak has two geographical units. The first region is Cizre, Silopi and İdil districts, which has wide plains. The second region is Güçlükonak, central Şırnak, Uludere and Beytüşşebap districts, which is surrounded by high mountain ranges. Although the southern and western parts of the city are part of the Mesopotamia, the northern and eastern parts are culturally associated with the Northeast Anatolia Region. Almost all archaeological research in the region was conducted in the southern and western

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section of the city (Algaze *et al.* 2012; Kozbe 2006; 2007; 2008). With the exception of the Neo-Assyrian rock reliefs on the southern skirts of Mount Cudi, the mountainous northern and eastern parts of Şırnak are devoid of archaeological research (Rassam 1897: 389; Erkanal 1988: 111-119). The surveys we carried out in the 2017-2018 seasons enabled us to reach very important findings. In the river valleys, located in the western part of our study area, the settlements were carved into the bedrock, while mounds were found on the eastern slope of the Tigris River, and dirhes on the high slopes of Mount Gabar. In Beytüşşebap, the most eastern district of Şırnak, numerous dirhes, high hillsides and tombs were found in the foothills of Mount Kato and river valleys. Dirhes are the most common units encountered in our survey area and almost the only building form as one moves eastwards. Dirhe is the name given by local inhabitants to very large stone, quadrangular-plan tower-shaped buildings with at least two floors.

Methodology

The Mountainous Şırnak Survey, titled "Regional Survey at Central Şırnak, Güçlükonak, Uludere and Beytüşşebap Districts" (no. 16642), supported by the Scientific Research Projects Coordination Office of Hatay Mustafa Kemal University. The survey is which began in 2017 with the permissions obtained from the Ministry of Culture and Tourism, General Directorate of Cultural Heritage and Museums, aims to explore the archaeological highlands of Şırnak, Güçlükonak, Uludere and Beytüşşebap districts. Our methodological approach involves an initial exploration of the target area through aerial imagery and declassified military maps. Selected locations and landmarks are then visited with local guidance. Discovered sites are recorded with a handheld GPS (Garmin eTrex 30). The sequential site codes are given based on the 1:25.000 scale topographic map legend of the region. For instance, the sites found with in M50d3 code-grid are labelled as M50d3.1, M50d3.2 (Tab. 2-7). This phase is followed by intensive surveys during which pottery is collected in transects especially along the routes connecting separate dirhes. The data collected is then exported into a GIS database, where aerial imagery, topographic maps and archaeological sites are combined to carry out landscape-site analysis, such as proximity and the least-cost path. The GIS module is used in the systematic documentation of the region, which will be made publicly available in future. GIS analyses are performed to understand the relationship between road networks and site distribution patterns. This data will then be used to localize settlements that are mentioned in the Assyrian and Urartian records.

Geographical structure of the region and the boundaries of the research area

In general, the region has a topography consisting of high mountain zones most of which stretch along the east-west axis and deep river valleys that allow passage along the north-south direction. The Tigris River, formed by the merger of streams and creeks flowing in

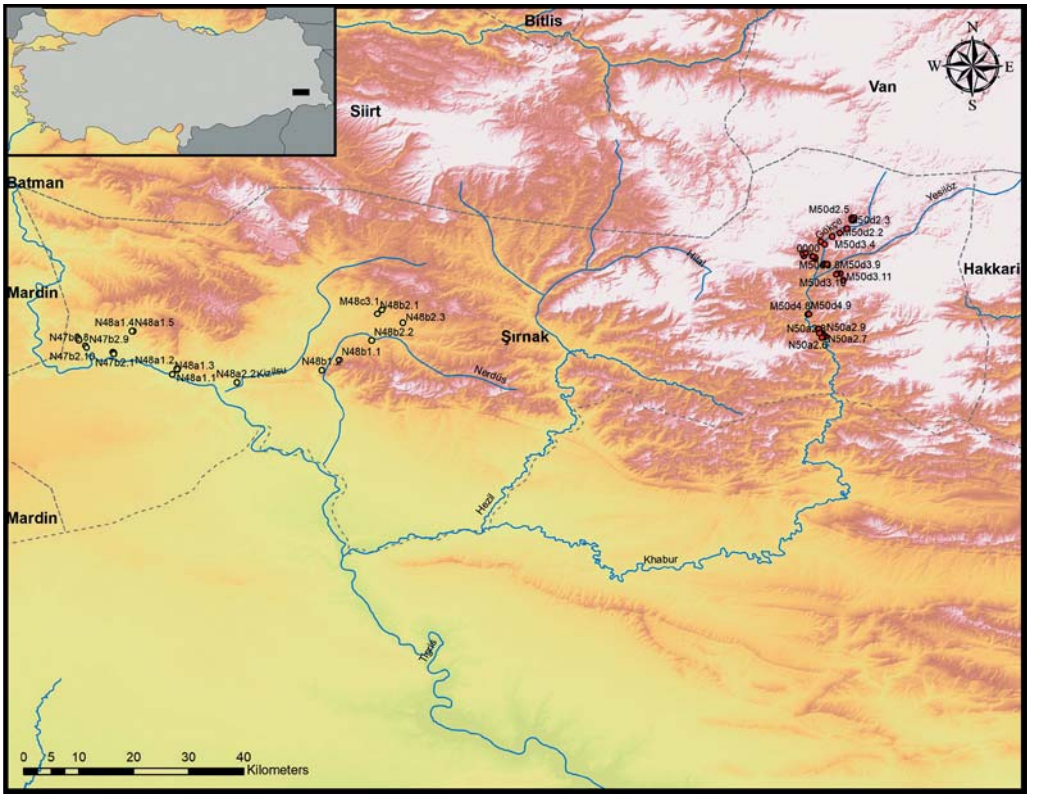

Fig. 1. Map of the Mountainous Şırnak Region survey area.

valley floors, flows through deep valleys to the south after merging with one of its largest tributaries, the Botan Stream, and continues eastward, making an elbow turn. It sharply separates the plains from high mountains on the north along about 20 km from this area. It then runs again to the south towards the plains in Cizre. The altitude of the two rows of mountainous zones to the north and south of the Botan Stream increases gradually eastward and joins with the Hakkâri Mountains (Saraçoğlu 1956: 77). Systematic surveys conducted by us have been in this mountainous zone between Mount Gabar (Güçlükonak), the western and southern slopes of which are surrounded by the Tigris River, and Mount Kato (Beytüşşebap), where altitude can reach up to 2500m. Our research area, which can be called as Mountainous Şırnak, includes a large part of the mountainous area between the Lake Van Basin in the north and Cizre-Silopi Plains in the southwest (Fig. 1).

Historical geography of the region and localization suggestions

During the Middle Iron Age, the Mountainous Şırnak region was a buffer zone between the Neo-Assyrian Empire and the Urartian Kingdom, which were two major political powers of the Near East. The Southeastern Taurus range north of Assyria and its extension

towards the east functioned as a barrier against the empire's need for expansion and raw materials. This mountainous zone was also surrounded by large and small buffer states that prevented a shared border with the powerful enemy Urartu. Assyrian written sources mention a number of states in this mountainous area that have yet to be properly localized (Radner 2012; Elayi 2017: 115-126). Royal inscriptions of the king of Assyria, Adad-nirari I (1263-1234), state that he took control of the Kašijari region (Radner 2006: 283-285). Assyrian interest in the region continued and all the Šubria (Šubarî) lands which were associated with Kašijari were captured in the periods of Shalmaneser I (1263-1234) and Tukulti-Ninurta I (1233-1197). During the reign of Tiglathpileser I (1114-1076), a campaign was conducted to the region around Kašijari Mountain, resuting in the conquest of Katmuḫu lands (RIMA 2: A.0.87.1, i 62-88; i 89-ii 35; ii 36-57; iii 7-31). Another king, Aššur-bēl-kalâ (1073-1056), reported conflicts between the region and Assyrians (Radner 2006: 284). About two centuries later, Assur-dan II (934-912) and then Adad-nirari II (911-891) once again carried out campaigns to the region (RIMA 2: A.0.98.1, 33-41; A.0.99.4, 21'-26').

In the periods of the Assyrian kings Tukultī-Ninurta II (890-884) and Assurnasirpal II (883-859), who pioneered the transformation of the Neo-Assyrian Kingdom into an empire, the deep interest in the Upper Tigris Basin and the mountainous regions in the north continued. Assurnasirpal II states that he conquered the cities at the foots of Nipur (Cudi) and Paşate Mountains, and reached Katmuḫu lands after passing the Tigris (RIMA 2: A.0.101.1, i 69b-99a). These references, which probably indicate settlements in the Cizre-Silopi Plain, do not provide information about higher regions, and those in the northeast, which is our research area. On the other hand, the records of the Assyrian king Sennacherib (704-681) suggest attacks to Mount Nipur (Cudi) and its immediate vicinity (RINAP 3/1: 10, 15; no. 16 iv 70-78; iv 79-v7; v8-11a; v11b-22). Especially the records about the king's 5th campaign state that the summits of Mount Nipur were reached, deep valleys were passed and the enemy residences, likened to eagle nests, were burned down. After the conquest of the cities on the mountain summit, the king's next target was the mountainous Ukku region, where no Assyrian king had ever campaigned (RINAP 3/1: 10, 15; no. 16 v23-28; v29-32; v33-40). The Assyrian king states that he destroyed the royal city of Manie, who is the king of Ukku, and 33 other cities affiliated to the king (Fig. 2). Aššur reşuwa, a ruler who was placed by the Assyrians to Kumme, which is the neighbouring city of Ukku, sends

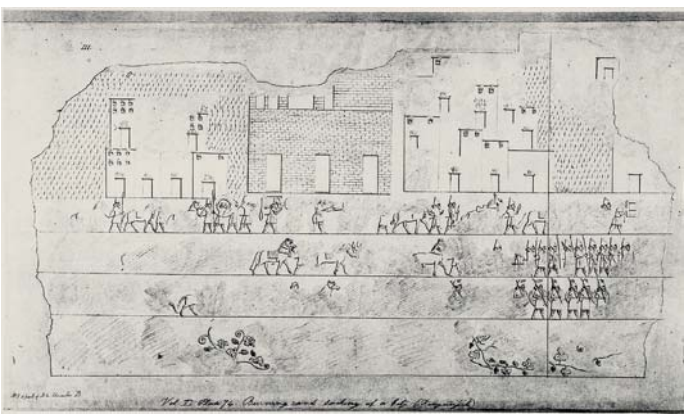

Fig. 2. The Ukku city relief in Nineveh southwest palace (Barnett *et al.* 1998: vol. II: Pl. 31).

intelligence letters to Sargon II and his successor Sennacherib, mostly containing information on political and military activities of the Urartians (SAA V: 84-112). The name Ukku frequently appears in these letters. The descriptions in these letters sent to the Assyrian capital reveal that Ukku was right on the Urartian border (SAA V: 87, 8; 286, 2-5). The same letters suggest that the king of Arzabia asked Assyria for help against attacks by Ukku, and that Assyria ordered the Ukku king to cease hostilities (SAA I: 29, 8-22). It is also known that the Ukku conducted spying activities for Assyria from time to time, just like Kumme (SAA I: 31, 8-21). Again, there is also a statement in the same documents indicating that Ukku paid taxes to Assyria (SAA V: 111, 1,3; 117, 5). It is understood from the complex relations stated in the letters that Ukku did not want to confront either of these powerful states. Although not fully affiliated to Assyria in the period of Sargon II, the approach against Ukku, which had been largely under control, changed during the reign of Sennacherib, who conducted a campaign to the region.

Another region mentioned in Assyrian written documents, and is likely to be near our survey zone, is Kumme, which is often referred to in the texts together with the city of Ukku. In 895 B.C., Adad-nirari II (911-891) made sacrifices to the Storm God and sent military forces twice to help Kumme. He defeated Habhu cities, which were Kumme's neighbor and enemy (RIMA 2: A.0.99.2, 91-93, 94-96). Kumme, then, is seen in the list of invited guests to the opening of the palace in Nimrud in the period of Assurnasirpal II (RIMA 2: A.0.101.30, 102-154). The letters sent from Kumme to the Assyrian capital show that Kumme was between Urartu and Assyria, and exposed to Urartian pressure (SAA V: 95 - CT 53 172+). The letters also list the taxes sent to Assyria from the region as its vassal (SAA V: 10, 2-4, 111: ABL 490: 1, 3).

Another region in the north mentioned in Assyrian written documents is Habhu, to which Tiglath-pileser I and then Aššur-bel-kala (1073-1056) conducted campaigns (RIMA 2: A.0.87.1, iv 7-31; A.0.87.16, 1-7; A.0.89.1, 12'-13'). The interest in the region continued in the periods of Adad-nirari II (RIMA 2: A.0.99.1, rev. 6'-9'), Assurnasirpal II, and Shalmaneser III (858-824) (RIMA 3: A.0.102.14, 156b-159a). It is understood from the Assurnasirpal II inscriptions that the western border of the region was near the Euphrates and was formerly named "Hattian" (RIMA 2: A.0.101.1, iii 92b-113a). In his reference to the Uluba attack, Tiglath-pileser III (744-727) states that Uluba was in Habhu (Postgate 1973: 27). Assyrian sources suggest that Assyrian kings organised regular campaigns to the above-mentioned region but that it could not be fully controlled. Just as Katmuhu and Habhu, Nairi and Subaru are generic names indicating the mountainous regions in the north that are very difficult to rule (RIMA 2: A.0.101.2, 7b-17a; 230: A.0.101.3, 29b-46).

Postgate argues that Habhu indicates a vast area from the Upper Zap Valley to the Middle Euphrates Basin in the east. He contends that the modern Zaho area in the Lesser Khabur Valley is much more suitable for Kumme (Postgate 1973: 58-59). This view is also shared by Parker (Parker 2001: 93; 2002: 376). On the other hand, Radner proposes a different opinion and suggests Beytüşşebap region in the Lesser Khabur Valley for Kumme (Radner 2012: 255). Similarly, there are different views for the localization of Ukku. For Ukku, Postgate suggests the mountainous area to the north of modern Zaho (Postgate 1973: 58-59), Parker suggests the Hezil Stream area (Parker 2001: 43), Radner and Jeffers suggest the Hakkâri Region (Radner 2012: 259; Jeffers 2011: 101), Erkanal suggests Mount Nipur region (Erkanal 1998: 194) while Sevin suggests Beytüşşebap

(Sevin 2015: 16). Kessler also places Ukku and Kumme near Zaho (Kessler 1980: 149). The archaeological data to support these localization proposals based on Assyrian written sources are quite insufficient, therefore, pottery obtained in our survey from chamber tombs and a number of settlements as well as the architectural remains, which mostly are dirhes, bear great importance. It is obvious that the Mountainous Şırnak Region was very important for Assyrians, especially from the early first millennium BC, though it became a serious battle ground between the two powers with the establishment of the Urartian Kingdom. The confrontation between these two major forces, therefore, which have no shared boundary, must have taken place in this mountainous area that may have served as a buffer zone. Small states in the region appear to have tried to maintain their independence as much as possible (Zimansky 2018: 252).

The dirhes in the mountainous Şırnak region

During the survey carried out in the Mount Gabar and Beytüşşebap districts, ruins of tower-shaped buildings, locally called 'dirhe's, built on the commanding points in deep valleys were identified. These quasi-square and rectangular planned buildings are often constructed with rough, half-finished or unfinished stones. Dirhes have at least two floors and they narrow towards the top. They are known from the surveys in the Urartian cultural borders, especially in the southern and eastern parts of Lake Van (Özdoğan 2000: 299; Belli 1993; 2000; 2008). These previous studies suggested that dirhes are posts, which watch the mines, dams, fortress, passages and roads that belong to the Urartians. They were, however, conducted in a limited area and as such do not present detailed data about the features, functions and chronologies of dirhes.

Etymological origin of the word "dirhe"

Dirhe is the local name given to these buildings. In the region, dirhes are also called as "giants' house, house where the giants lived". In Kurdish, it means, "built of large rocks, protected, castle-like". In Northern Iraq, the term "kelxê", which has a similar meaning, is sometimes used instead of dirhe. In Syriac, the plural of the word "dargo", which is derived from the verb "darg", must be "darge" and its meaning is explained as "castle-like, tower, wall and staircase". The word may have derived from the "darag" root as "dirgē, dirḥe, darḵé" in Aramaic. It also has the meaning of "stage, elevation, step, ladder". Again, the buildings in the Ṭur Abdin region that resemble dirhe but are smaller are named "qomıṣḥo or kokale" in the Ṭuroyo dialect of Syriac. These buildings are found especially in the vineyards and the owners stay here to protect their harvest. "Qomıṣḥo", which is thought to have passed from Jewish Aramaic to Ṭuroyo, means "shelter".

Locations of Tower-Shaped Buildings

Examined areas in the western part of the survey area include river valleys that spring from Mount Gabar and merge with the Tigris River in the south having passed through

in the deep valleys, high slopes facing these valleys, and a part of the confluence of rivers. Rock-carved settlements were detected in the valleys, while mounds were observed in the eastern slope of the Tigris River and dirhes were located on high slopes. Dirhes and fortresses were found on the high slopes of the river valleys of Avina (Zewe), Ormaniçi and Güçlü, which spring from Mount Gabar and merge with the Tigris River in the south (Coşkun 2018: 33-41; Coşkun *et al.* 2019: 181-184) . Two dirhes, one to the west and the other to the east of the valley, were found in the Avina (Zewe) valley. Four dirhes and a fortress, which is under a recently abandoned settlement, to the north of one the dirhes, were found in the Ormaniçi Valley. Four dirhes and a fortress were found in the western slopes of the river in the Güçlü Stream valley. Mount Dallıca, rising sharply in the east of the Tigris River with an altitude of 1400m, extends eastward and joins Mount Gabar. The altitude continues to rise towards the east. River valleys spread along the north-south axis while passages along the east-west axis are observed in the high plains near the summit. The dirhes and fortress we found in three river valleys in Şırnak-Güçlükonak are parts of three separate routes towards the high summits (Fig. 3).

The dirhes discovered in Beytüşşebap, which is in the eastesn part of our study area and is to the west of the Hakkâri mountains, are positioned along a route so that they are visible from one another, just as in the examples on Mount Gabar (Fig. 4). Only those in one region differ in terms of their location. Four dirhes and a settlement very close to these were discovered in the Navdirhan region, which lies to the north-west of Beytüşşebap. Three dirhes were identified on the same route in Çay Stream Valley and Cevizağacı Village. Çay Stream meets the Faraşin Stream in the east and flows southwards to merge with the Lesser Khabur. This route reaches Van-Çatak and Bahçesaray in the north and Pervari in the west

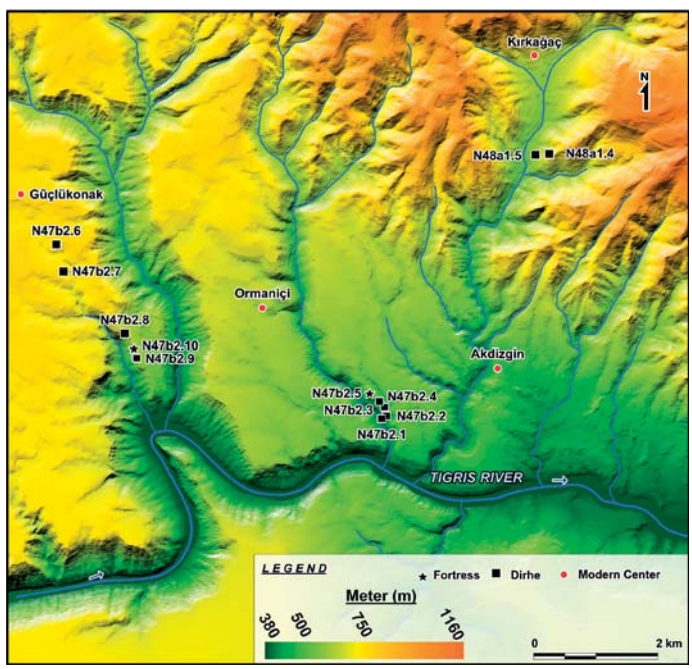

Fig. 3. Distribution map of dirhes and fortresses on the southern outskirts of Gabar Mountain.

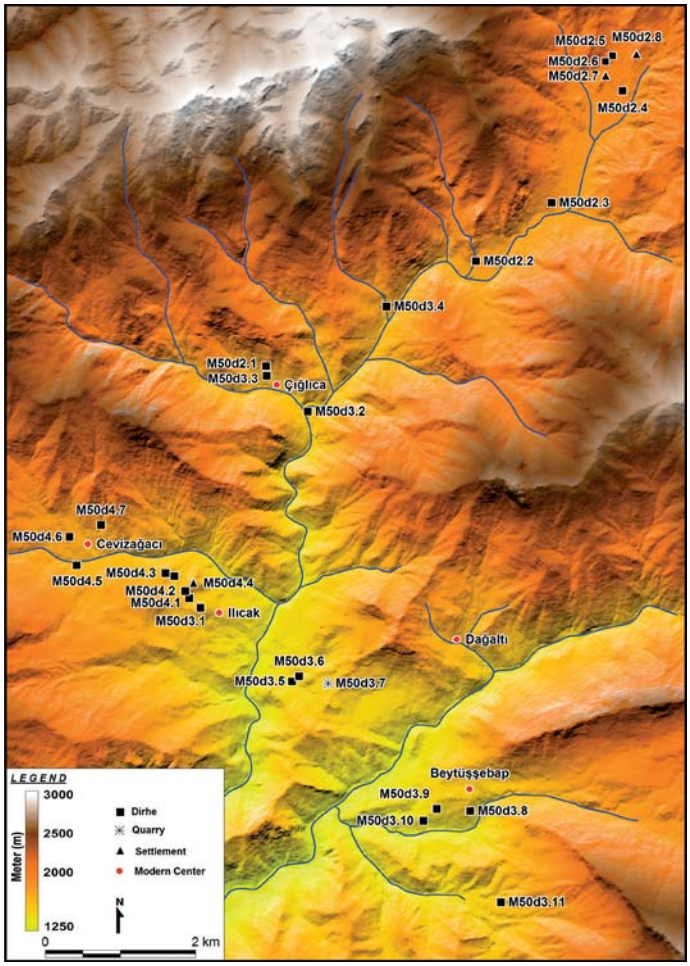

Fig. 4. Distribution map of dirhes, settlements, chamber tombs and quarries in Beytüşşebap District.

via Tuzluca-Dilekyolu. To the south of this route, west of Beytüşşebap, the Incebel Mountains stretch like a barrier along the east-west axis, allowing passage to the south of this route through Derimehola Gediği and Kerkol, which lie to the east of Lake Berçiya.

Seven dirhes and two settlements were found to the north of Beytüşşebap in the direction of Mezra Village, where three dirhes were located in the direction of and within Çığlıca Village. Three dirhes and a quarry were identified in Sinekli Meydan (Fig. 4). This route follows the Gökçe Stream Valley and reaches Faraşin in the east, one of the most important plateaus of the region. The Faraşin Plateau is one of the important pasture areas that is still in use. The Faraşin (Yeşilöz) Stream, which springs from the rough mountainous areas in the north, merges with Gökçe and Singever streams, forming deep valleys, and couples with the Lesser Khabur in the south. This is the most important route along the north-south axis. There are many routes that reach the highlands at the end of these wide and deep valleys extending like a large plain. The Norduz Plateau to the north is accessed through the Faraşin Plateau.

Three dirhes were discovered in the Singever Stream Valley the district centre of Beytüşşebap and one in the Mağara Village to the southeast (Fig. 4). From one direction, this route reaches the Faraşin Plateau over Söğütçe towards the northeast. From the other direction, Mount Kato (Altındağlar), which is to the south of Güneyyaka and has an altitude of 3000m, is reached by following the high hills from Meydan Zengil to the east of Söğütçe. Stretching between Beytüşşebap and Hakkâri, Mount Kato has an east-west direction and one can go eastwards via the stream beds to the north of the zone. To the west extension of the mountain is the Altınkapı Pass that allows access to the south. The Süvarihalil Pass, the most important passage along the Hakkari road, is in the old Anitos (Yoncalı) village on Mount Karanlık, which is the eastern extension of Mount Kato. This road is under heavy snow, especially in winter.

The Faraşin (Yeşilöz-Hamam) stream, the most important route along the south-north axis, merges with the Lesser Khabur in the south after passing through very deep valleys. The altitude decreases by approximately 300m along the valley and declines to 1200m in the Lesser Khabur Valley. The modern Beytüşşebap-Şırnak highway also passes through this route. Four dirhes were found in Aşağıdere village towards the south, all of which are to the west of the Faraşin Stream (Fig. 5).

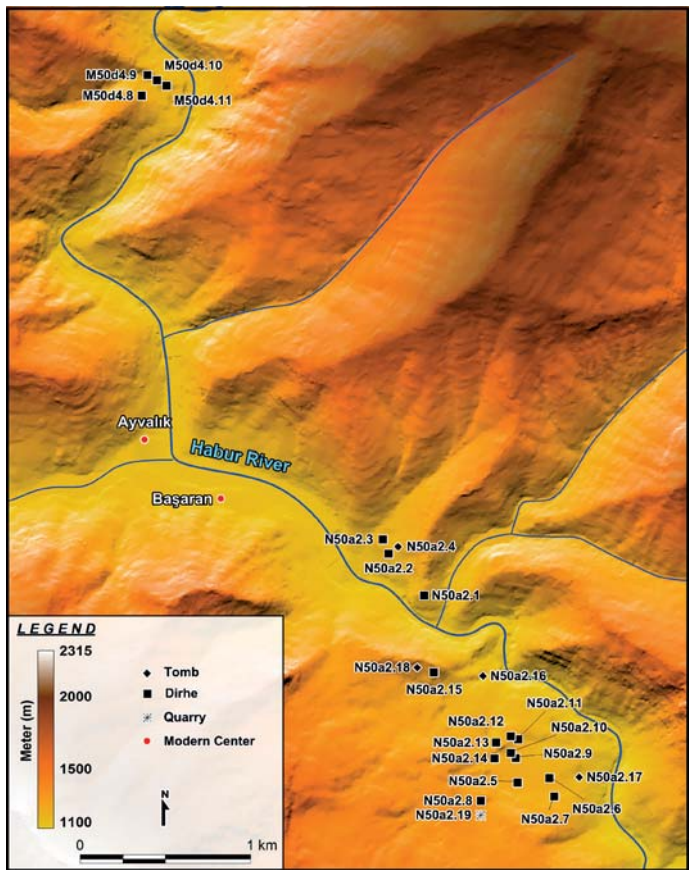

Fig. 5. Distribution map of dirhes, settlements, chamber tombs and quarries in Harguriya District.

The Lesser Khabur Stream springs from the mountainous Hakkâri region, flows from Uludere to northern Iraq and from there to southwest and then west, couples with the Hezil and merges with the Tigris River near Silopi by the Iraq-Syria-Turkey border. Both the Faraşin from the north and the Lesser Khabur from the west to merge with the Haribaha Stream create a large bed in Ayvalık. Three dirhes and one tomb were found in the Ayvalık-Başaran village to the north of the Lesser Khabur, and eleven dirhe, three tombs and a quarry were found in the Harguriya district to the south of the river (Fig. 5).

The dirhe ruins we found in the Mount Gabar and Beytüşşebap valleys show that they were not positioned randomly. These buildings, which primarily function for communication and defense purposes, are positioned in clusters on high slopes or high plains in mountainous areas to watch and control valleys. The dirhes found in the Harguriya district, however, are an exception in terms of their preferred location. Although similar to other dirhes in terms of materials and construction techniques, these buildings are built on the high plains to the southern bank of the Lesser Khabur and mostly resemble settlements/neighborhoods. Nonetheless, the Harguriya dirhes are positioned such that they face one another, which is consistent with the general characteristics of dirhes. One example stands out in this region, where 11 dirhes and tombs were found, due to its position and monumental size (Fig. 5). Given the locations of the dirhes, it can be argued that these buildings might be the units of a defense line built to protect the monumental dirhe at the centre. The dirhe N50a2.5 demonstrates that there might be functional and hierarchical differences between the dirhes. Particularly the construction of more than one dirhe close to one another in the same region shows that these buildings had defense purposes rather than communication.

Architectural Features and Stone Masonry

Most of the dirhes we examined are built with large cyclopic stones. Most of the building stones were either unfinished or roughly shaped. The gaps between larger stones were filled with smaller ones. One example is entirely different from the others in terms of its construction technique. Built on bedrock, it is 4m high (Fig. 6). The dirhe N47b2.9, which has a fortress building to its north, is on the edge of a deep cliff on a high slope facing the Tigris River on Mount Gabar. In the examples found both at the foots of Mount Gabar and in Beytüşşebap, the stones are large-sized while small-sized stones are used in the construction of the Başaran and Harguriya dirhes that are in the Lesser Khabur Valley. This difference is thought to stem from the quality of the quarries in the region rather than being chronological. Wall thickness of the dirhes range between 1.60m and 2.70m. In some cases, the walls are rounded up from within. Larger sized stones are used especially in the foundations of buildings while the upper parts of walls are built with smaller stones as the building narrows towards the top.

Dirhes have square, quasi-square/rectangular or tetragonal plans. Since their sizes are larger especially in the Beytüşşebap region, dirhes are built in an inclined manner to accommodate topographical changes. These dirhes are seen to have at least two floors (N47b2.2, N50a2.5, N50a2.7). The floors of the dirhe N50a2.7 are separated with fine flag stones – the height of the 1st floor from the ground is 1.25m (Fig. 7). There were no traces in the dirhe N47b2.2 to show the existence of the second floor – it may have been

separated by wooden beams. Two examples (N47b2.2, N50a2.5) with preserved wall heights are constructed such that they narrow upwards. The dirhe N47b2.2 is almost entirely standing but without a door space, though there is a 95cm × 65cm window on the northern side (Fig. 8-9).

The walls of the dirhe N47b2.7 are mostly destroyed but there is a 170cm × 72cm window on its southeastern side (Fig. 10). The eastern wall of the dirhe N50a2.5 is in a ruinous state but there is a 116cm × 215cm window on its northern side (Fig. 11-13).

We presume that there were no door spaces on the dirhes N47b2.7 and N50a2.5 but we cannot ignore the possibility that they might have been on the destroyed walls. The dirhe N47b2.2, however, presents accurate evidence in this regard (Fig. 9). The size of its window is not large enough for everyone to pass through. It is most likely that the door

Fig. 6. View of dirhe N47b2.9.

Fig. 7. The second floor of dirhe N50a2.7, divided by a monolithic stone slab.

Fig. 8. South view of dirhe N47b2.2.

Fig. 9. North view of dirhe N47b2.2.

Fig. 10. Dirhe N47b2.7.

Fig. 11. Central dirhe N50a2.5 in Harguriya.

Fig. 12. South view of central dirhe N50a2.5 in Harguriya.

Fig. 13. North view of central dirhe N50a2.5 in Harguriya.

was not built due to security reasons – a light and portable roof cover was preferred while the building was accessed through a ladder via the roof. The windows in the other examples are larger. If we assume that they did not have doors either, entry might have been from the roof or from the windows. Considering the fact that the region gets heavy snow, it is obvious that a light roof coverage has both advantages and disadvantages. Using the roof or windows for entry in dirhes built for communication and defense purposes would have been a protective measure.

Sizes of dirhes are rather different from one another. Those that are in the western side of our study area, on the foots of Mount Gabar, are smaller. Their sizes range between 24m² and 90m². In the east, in Beytüşşebap, on the other hand, dirhes are larger. Their sizes range between 52m² and 215m² (Tab. 1). Considering that these have only one floor, it can be claimed that the Beytüşşebap dirhes have dwelling functions in addition to communication and defense. In two of the large-sized dirhes, the interior space is divided with a wall, which supports this hypothesis. There is a 2m thick and 7.80m long interior wall that divides the dirhe M50d4.3 into two in the east-west direction. On the other hand, there is a 3.20m thick interior wall dividing the dirhe N50a2.15 into two in the south-north direction. In addition to these, there are examples where two dirhes are attached or are very close to one another. In the example M50d2.3 nearby the Mezra Village, two dirhes are attached. The southeastern wall of the first dirhe is shared. Both are inclined towards the southeast, in alignment with the topography. There is only 20cm distance between the two dirhes M50d3.5 (1-2) in the Sinekli Meydan Region.

Built on the plain area to the south bank of the Lesser Khabur, Harguriya dirhes totally look like a settlement/neighborhood. The dirhe N50a2.5 has a monumental size with 15.60m walls on the north, 16.30m on the south, 12.90m on the east and 13.50m on the west (Fig. 12-13). It has an inclined construction in accordance with the topography and is surrounded by 11 dirhes, three tombs, and a quarry which is probably used for the procurement of stones for the construction of the dirhes. The positioning and size of the dirhe N50a2.5 brings to mind hierarchical differences in this region.

ARCHAEOLOGICAL UNITS NEAR AND ASSOCIATED WITH THE DIRHES

Fortresses: Both of the fortress discovered in the surveys are documented in the valleys of the rivers that spring from Mount Gabar and merge with the Tigris River in the south. They are at the end of the route followed by the dirhes and are situated very close to them. Interviews with locals revealed that there are other fortresses on the high slopes of the deep valleys towards the summit of Mount Gabar and in the high mountain slopes in Beytüşşebap.

Ormaniçi Fortress/Kela Goşth (N47b2.5): It is located to the north of the dirhes that are almost 2.5km to the southeast of Ormaniçi village. The traces of a fortress that lies below a recently abandoned settlement, which is most likely contemporary to the dirhes, was observed. Its plan, however, could not be identified because it was heavily damaged by the dense modern settlement (Fig. 14).

Kela Kurik (N47b2.10): Built on a rock face to the eastern slope of the valley, it is located 3km to the southeast of Güçlükonak district centre. The fortress and the dirhe N47b2.9 to its south are positioned so that they can control the valley in the west. The fortress sits on a smoothened bedrock. There are four water cisterns next to one another. The fortress is accessed after passing these cisterns. There are still wall traces on the fortress. On the southeastern part of the fortress, there are stairs that go down a sharp cliff. Moreover, there are foundation traces that belong to buildings on the fortress (Fig. 15).

Settlements: All of the settlements that were discovered are in Beytüşşebap, which is to the east of our study area. All three settlements were inhabited in a single period.

İsimsiz Tepe Mound/Gri Kora Silif (M50d4.4): It is located on the road that reaches the Lesser Khabur valley in the south through the Çay Stream Valley, to Van, Çatak and Bahçesaray in the north through the mountain paths in the north and to Pervari in the west. Located on a natural hill, it is 100m northwest of the dirhe M50d4.2 in the Navdirhan region and 200m east of the dirhe M50d4.3. Its position allows easy monitoring of all four dirhes found in the Navdirhan region (Fig. 16).

Fig. 14. Ormaniçi Fortress.

Ava Şorki Mound (M50d2.8): It is located in the Mezra village, along the Gökçe Stream Valley, on the roads that reach both the Faraşin plateau and the Lesser Khabur valley. Mezra village is on a high natural hill and 350m to the northeast of the dirhe M50d2.4 (Fig. 17).

Girke Aco Mound (M50d2.7): It is located in Mezra village, 500m southeast of Ava Şorki hill and 100m south of the dirhe M50d2.6. It is situated on a natural hill (Fig. 18).

Tombs: All four tombs that were discovered are located in the Lesser Khabur valley. All are chamber tombs. The walls of the room opening to earthen floor are of stone and are covered by large flat stones.

Başaran Tomb (N50a2.4): It is located on the slope 250m to the east of the Başaran village, around 300m north of Lesser Khabur and 100m southeast of the dirhe N50a2.3. It is a chamber tomb covered with flat stone slabs. Its entrance is from the southwest. It was damaged due to illicit excavations (Fig. 19).

Fig. 15. Kela Kurik Fortress.

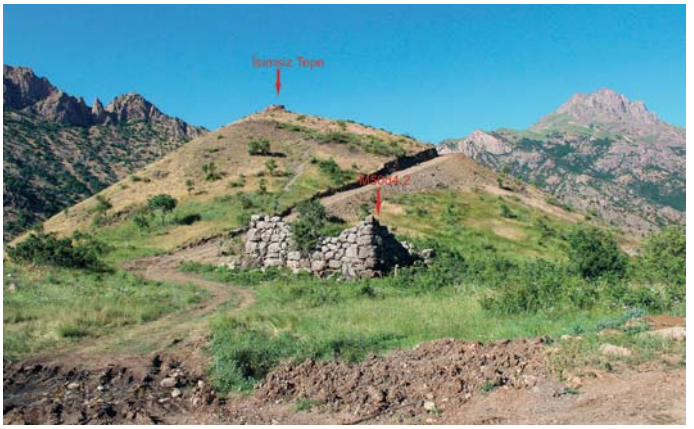

Fig. 16. View of İsimsiz Tepe Mound and dirhe M50d4.2.

Fig. 17. View of Ava Şorki Mound.

Fig. 18. View of Girke Aco Mound.

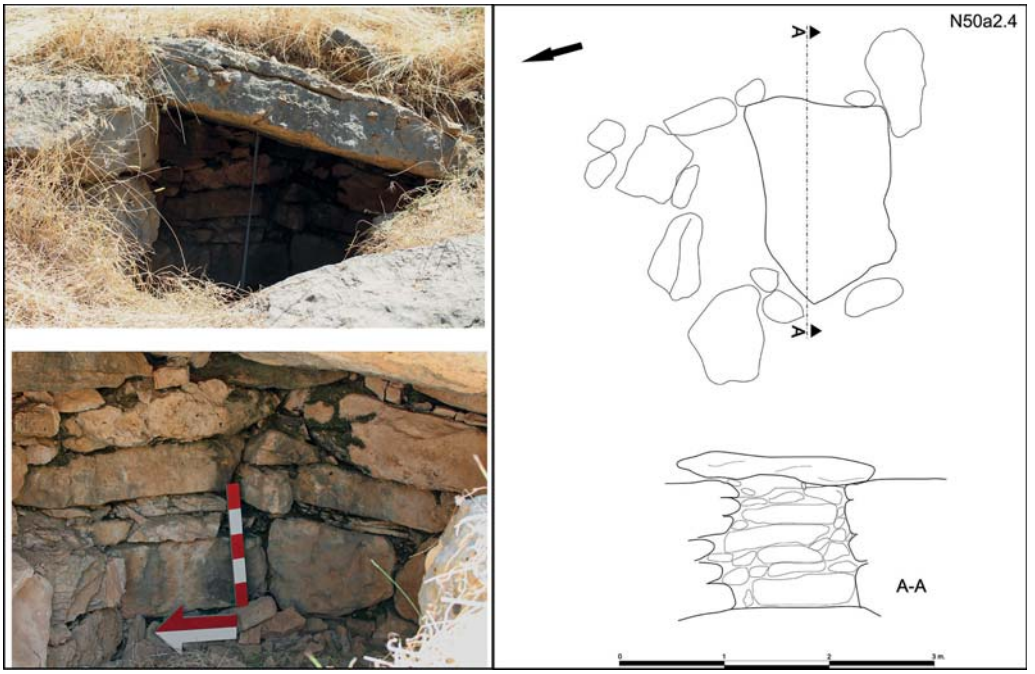

Fig. 19. View, plan and section of Başaran M1.

Harguriya Tomb 1 (N50a2.16): It is 1km southeast of Başaran village, on the eastern bank of the peninsula created by the Lesser Khabur, which makes a meander, and almost 100m west of the river. It is 650m northeast of the dirhe N50a2.5. Its entrance is from the east. The chamber tomb, which was probably covered with flat stone slabs, was totally destroyed during modern road construction works.

Harguriya Tomb 2 (N50a2.17): It is located 1.8km southeast of Başaran village and app. 200m to the west of Lesser Khabur. It is 200m east of the dirhe N50a2.6. Its entrance faces the east. It is a chamber tomb covered with flat stone slabs. Its wall pattern is the result of the overlap technique, which narrows upwards. Two smooth stones inside the tomb were placed to make an inward protrusion (Fig. 20). In Van-Çatak, to the north of our study area, there is a similar protrusion in another tomb built in the same architectural style, and it is stated that the belongings of the deceased might have been placed there (Kuvanç *et al.* 2016: 153, Fig. 3a-b; 4, 5c).

Harguriya Tomb 3 (N50a2.18): It is located on a high slope 1km southeast of Başaran village and app. 200m south of Lesser Khabur. Its entrance is from the southwest. It is a chamber tomb covered with flat stone slabs (Fig. 21).

Quarries: Two quarries that are very close to the dirhe clusters were found at different locations in Beytüşşebap. The current traces in the Sinekli Meydan and Harguriya regions show that open cast quarrying was performed. Since the extraction of blocks of stone from their sources and their use in constructions is a cumbersome matter, the nearest source was preferred. Both the stone masonry of the blocks used in the buildings and the traces in the quarries indicate that stone-cutting and processing technology was not

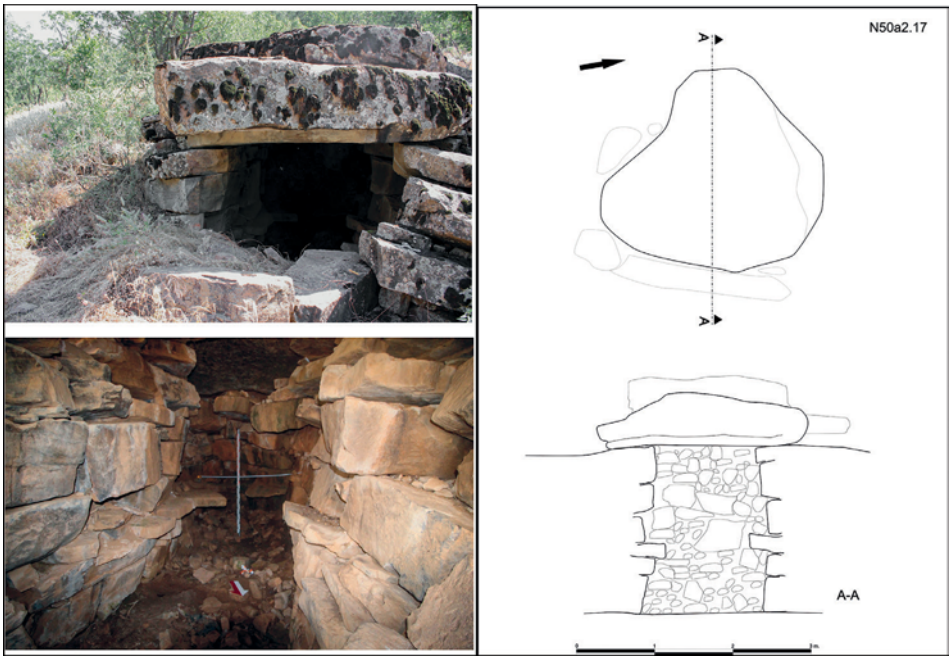

Fig. 20. View, plan and section of Harguriya M2.

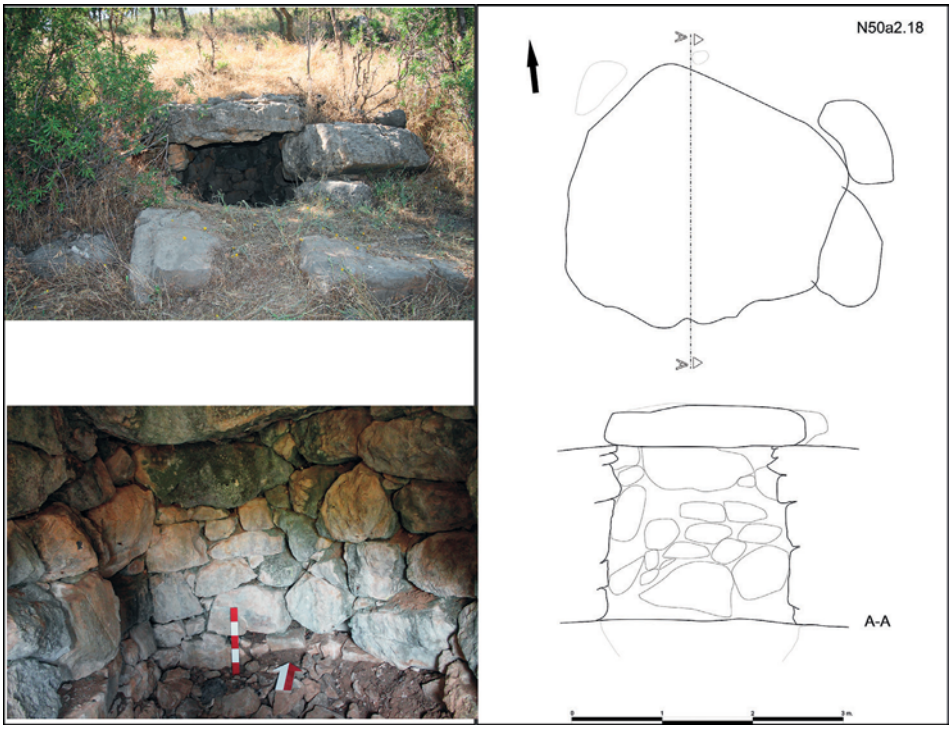

Fig. 21. View, plan and section of Harguriya M3.

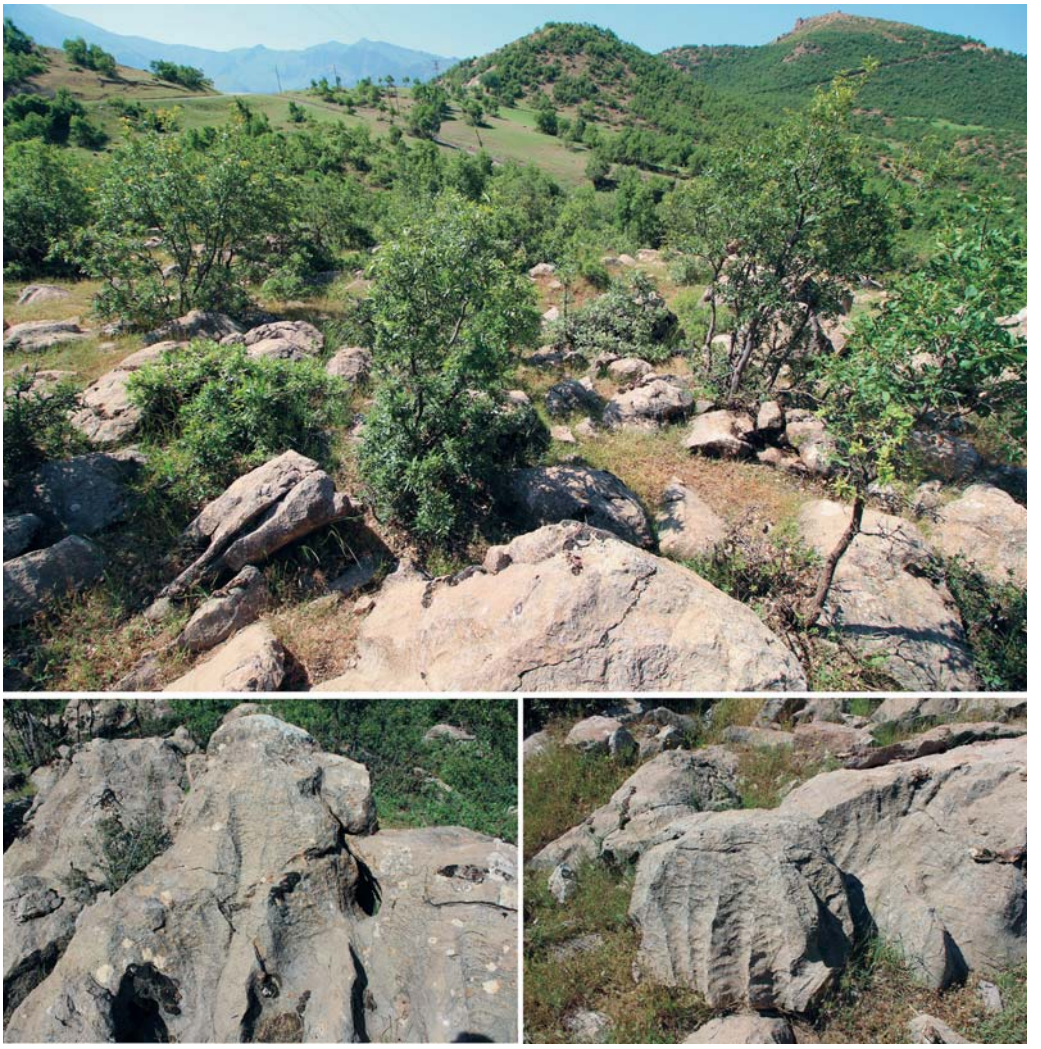

Fig. 22. View of Sinekli Meydan Road Stone Quarry (M50d3.7).

very advanced. The separation channels that remain from the extraction of construction blocks from the bedrock is the most noteworthy technique.

Sinekli Meydan Road Stone Quarry (M50d3.7): Located in Sinekli Meydan, it is 400-450m. east of the dirhes M50d3.5 and M50d3.6. Chisel marks were observed on large stone blocks in an area of app. 100m in diameter. It is highly likely that the stones of the Sinekli Meydan Road and perhaps the Navdirhan dirhes were taken from this quarry (Fig. 22).

Harguriya Stone Quarry (N50a2.19): It is 1.7km southeast of Başaran village, in the Harguriya region, 800m south of Lesser Khabur and on the northern foot of Nav Çavka Mountain. It is 250m south of the dirhe N50a2.5. Chisel marks were observed on large stone blocks in an area of app. 50-60m diameter. It is highly likely that the stones of the Harguriya dirhes were taken from this quarry.

POTTERY FOUND IN THE DIRHES AND THEIR IMMEDIATE VICINITY

A limited number of pottery sherds were found in the dirhes, which show commonalities with those found in the fortress, settlements and tombs nearby the dirhes in terms of ware groups and typology. Among the sherds found in the dirhes on the foot of Mount Gabar to the west of our study area, there are examples of Cream Ware (Fig. 23: 3), Cream Slip Ware (Fig. 23: 1) and Brown-Red Ware (Fig. 23: 2, 4, 5). All of the samples are medium-size sand mixed. Some have small gravel sand mixtures, and some have plant mixtures. Almost all of the fragments have lightly burnished or roughly smoothed surfaces. All are shaped on the wheel.

Pottery found during the Beytüşşebap survey are Cream Ware (Fig. 24: 6; Fig. 29: 6), Brown-Red Ware (Fig. 24: 1-2, 5, 7-8; Fig. 25: 2, 5; Fig. 26: 1-6; Fig. 27: 1, 3-4, 6-7; Fig. 28: 3-5) and Pink-Buff Ware (Fig. 24: 3-4; Fig. 25: 1, 3-4, 6-7; Fig. 26: 7-8; Fig. 27: 2, 5; Fig. 28: 1-2, 6; Fig. 29: 1-5, 7).

Fig. 23. View of Navdirhan dirhes and İsimsiz Tepe Mound by Beytüşşebap.

Fig. 24. View of dirhes in Ormaniçi Valley by Kela Goşth.

The most similar examples of these types of pottery are in the tombs of Hakkâri. In terms of ware, technical features and typology, the continuous type Pink-Buff, which is attributed to the late period of the Hakkâri M1 tomb, and the Red-Brown Wares demonstrate the most similar characteristics with the pottery found in Beytüşşebap (Sevin 2015: 53-79, 96-102; Ayaz 2017: 137-140). The samples found in the dirhes and the fortress on the foot of Mount Gabar and those found in the dirhes, settlements and tombs in Beytüşşebap widely resemble one another. The most important difference is that the Pink-Buff ware is found in the Beytüşşebap region. The wares that appear to be local and which constitute a large portion of the pottery repertory of the Early Iron Age for the Lake Van Basin and Hakkâri region were mostly found with other wares in Beytüşşebap, demonstrating a geographical unity with Hakkâri.

Historical development of the tower-shaped buildings

The most crucial problem is figuring out which period the tower-shaped buildings that we see in the archaeological landscape of Mountainous Şırnak historically represent. Especially the similar-shaped buildings found in the south of the Lake Van Basin (Belli 2000; 2008); in the west of Lake Urmiye, near Turkey-Iran border (Kleiss 1989); North-eastern Anatolia (Köroğlu 1998: 135-136; Patacı 2016) and the Sevan Lake Basin (Earley-Spadoni 2015: 23-24; Mkrtchyan 2017; 2018) are generally dated to the Early Iron Age and the Urartian Period. The historical contexts of these buildings, however, are not discussed in detail. The existence of similar buildings across a wide territory, dating to different periods and have different functions, also make it difficult to evaluate them (Morris-Papadopolos 2005: 155-225; Duggan-Akçay 2014: 377-442; Mcnicoll 1997: 171-181; Arkush 2011).

We will consider the examples we described above in detail as unique buildings of a geography where no significant superiority was achieved during the competition between the Urartians and Assyrians. Nevertheless, in addition to both archaeological and linguistic data of the two great powers mentioned above, we will make a dating based on the distinct architectural features of the dirhes, chamber tombs and pottery. The monumental-looking tower-shaped buildings on a single plan scale are constructed with cyclopic blocks. The tradition of constructing cyclopean buildings are known to have been widely used in the Eastern Mediterranean, Anatolia, Levant, Greece, Syria and Palestine since the mid-second millennium BC. (Wright 2009: 72-73). Cyclopean architecture continued in the region especially in the Early Iron Age and Urartian period buildings in the Van and Sevan Lake basins. The cyclopic construction technique was used extensively in the Sardurburç building, which was the earliest royal building of the Urartu Kingdom, and in its early fortress.

Written documents found in Mari dating to the 1800s BC provide information about defence buildings used as communication units (Dossin 1938; Leibovici 2012: 38-48). Neo-Assyrian texts provide very useful information about the late 2nd millennium BC. Texts mentioning Sargon's 8th campaign are particularly important in terms of demonstrating the presence of tower-shaped buildings that were constructed as communication units and are positioned at high mountain peaks (Foster 2005: 804).

> When the people of the district Sangibute, those who dw[elt in the hamlets] and those who dwelt in those cities, [saw] the cloud of dust raised by my army a double league away, panic befell the whole land of Urartu. For them to watch out for enemies(?) in the district, ***towers had been built on mountain peaks and provided with [stores of firewood for signals]***. When they saw the (250) bonfires lit, signaling the approach of an enemy, [for which] torches [were kept ready(?)] day and night, announcing [ ], they feared my furious attack, which has no like, terror spread among them, and they were too af[raid to fight].

Kleiss and Kroll, who conducted a survey on the western shores of Lake Urmiye where Ulhu city, mentioned in the records of Sargon's 8th campaign, is localized, identified a tower-like building in Qalatgah (Muscrella 1986: 469). In addition, Zimansky states that a similar watchtower is located near the Verachram Fortress (Zimansky 1985: 45). The presence of the Assyrian Empire in the region as a dominant power in the 1st millennium BC is seen as the most important reason for the communities and states living in mountainous areas to establish a defense and communication system consisting of tower-shaped buildings. As a matter of fact, the basic phenomenon that shaped the region in both the Early and Middle Iron Age was war. In this respect, Smith associates the existence of defense buildings around the Van and Sevan Lake basins in the Early Iron Age with the concept of concern (Smith 2012: 40). Especially the dirhes built in this region, which are naturally protected due to their locations on mountainous land, must have been built as a result of the culmination of such concerns.

In addition to written data, Assyrian reliefs also provide information about the tower-shaped buildings. The conquest of the royal city of Manie, king of Ukku, and 33 cities affiliated to him, described in the 5th campaign of the Assyrian king Sennacherib, is depicted in the reliefs of the Southwest Palace in Nineveh (Fig. 2, Barnett *et al.*, 1998: Pl. 31; Jeffers 2011: 91). The depictions in this relief are particularly important as they show the existence of tower-shaped buildings in high mountainous areas. Descriptions of monolithic tower-shaped buildings isolated in the same way are also known in the examples of Urartian art. Especially the tower depictions on bronze bowls and on tower-shaped bone models found in Karmir-Blur clearly show the existence of such buildings in the Middle Iron Age (Roaf 2012: Fig. 24.06).

The presence of tower-shaped architectural remains in the archaeological landscape of the mountainous Şırnak region suggests the existence of a holistic defense system that was established in this region. The identification of the relationship of these buildings with others, such as the fortresses, which represent protected administrative centres also containing public buildings such as temples or palaces, will further highlight the perceptibility or visibility of this defense system.

Conclusion

Systematic surveys are conducted in the mountainous zone between the Lake Van Basin and the northern tip of North Mesopotamia. Data on the historical geography of this region, which has been hitherto deprived of scientific studies, is gathered from Neo Assyrian

written documents that characterize the political archive of the Near East in the Middle Iron Age. These documents make it clear that there were a large number of local states in this mountainous area between the Urartian and Neo Assyrian states.

52 dirhes were documented during the surveys we carried out between the Tigris River in the west and Beytüşşebap in the east. The available data suggests that in the Iron Age there was a close link between the dirhes and the political organisation of this mountainous area. Dirhes are tower-shaped buildings made of cyclopic stones. They are positioned consecutively (Fig. 30, 31) and are located on high slopes so as to watch river valleys. Dirhes appear to be parts of a chain that follows certain routes. Given these features, it is understood that communication is one of the primary functions of the dirhes. The absence of doors in almost all cases indicates that the roof was used for access. These features reveal that they were designed as military buildings with a dominant defensive function. 11 dirhes in the Beytüşşebap Harguriya region, on the other hand, were designed in the form of a building cluster/neighborhood where one of them is at the centre with its monumental size. This sort of organisation, therefore, brings to mind that at least some of the dirhes were used for dwelling purposes. This also points at the possibility that the central building may be a temple or a political public building that serves a different purpose. It should be emphasized, however, that this central building, which is different in terms of its size and location, does not have a distinctive feature in terms of its construction technique or building materials. Further research is needed to determine the functional and hierarchical differences, if any, between the dirhes. Together with the dirhes, two fortresses were located on the foot of Mount Gabar, as well as settlements, tombs and quarries in Beytüşşebap, which might be related to the dirhes. Pottery found in these buildings and the few samples found in the dirhes have fully similar features.

The cultural and physical boundaries of the dirhes are unknown at present. We have only ambiguous clues about this huge system spread over a vast territory. Identification of the main, if not all, routes of the dirhes, which are consciously positioned to face one another, will help us understand the historical geography and the commercial/military routes of the region. Another problem that needs to be resolved is whether the dirhe system was built by a strong political organisation. The first issue that comes to mind is that such an advanced system could have been constructed only by a dominant political organisation. On the other hand, the absence of any basic finds such as cuneiform inscriptions, reliefs, potteries and architectural buildings that could suggest the royal and cultural representation of both powers in this mountainous area, complicates the evaluation of the archaeological materials we have identified. Our current findings, however, indicate that they have similarities with neither the Urartian Kingdom in the north nor the Neo-Assyrian Empire in the south, but contain elements of local traditions. It may be possible that the small states mentioned in written sources emulated one another and maintained a defense system influenced by the local topography. The chronologies of the tower-shaped structures in the immediate vicinity of our study area, the architectural features of the dirhes we identified, the settlements, tombs and fortresses that may be related to the dirhes, and pottery from all archaeological units suggest that at least some of the dirhes were used during the Iron Age.

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APPENDIX: DIRHE, FORTRESS, MOUND AND SETTLEMENT TABLES

Table 1. Approximate dimensions of the ground area of dirhes.

Name	*Code*	*Location*	*Dimension*
Avina Dirhe 1	N48a1.4	3.5km north of Güçlükonak Akdizgin Village.	10 × 9m
Avina Dirhe 2	N48a1.5	500m southeast of dirhe N48a1.4.	9.5 × 9m
Ormaniçi Dirhe 1	N47b2.1	2.7km southeast of Güçlükonak Ormaniçi Village.	9.30 × 8.30m
Ormaniçi Dirhe 2	N47b2.2	400m north of dirhe N47b2.1.	6.70 × 6.7m
Ormaniçi Dirhe 3	N47b2.3	150m north of dirhe N47b2.	5 × 5m
Ormaniçi Dirhe 4	N47b2.4	100m north of dirhe N47b2.3.	4.710 × 5.10m
Güçlü Dirhe 1	N47b2.6	1.3m to the south of the Güçlükonak district center.	10 × 7.50m
Güçlü Dirhe 2	N47b2.7	150m south of dirhe N47b2.6.	9.30 × 4.50m

Güçlü Dirhe 3	N47b2.8	1.5km south of dirhe N47b2.7.	8.70 × 9m
Güçlü Dirhe 4	N47b2.9	400m south of dirhe N47b2.8.	8 × 8m

Table 2. The Güçlükonak dirhes.

Name	*Code*	*Location*	*Dimension*
Ormaniçi Fortress/ Kela Goşth	N47b2.5	100m north of the Ormaniçi dirhes.	-
Kela Kurik	N47b2.10	10m south of dirhe N47b2.9.	-

Table 3. The Güçlükonak fortresses.

Name	*Code*	*Location*	*Dimension*
Navdirhan Dirhe 1	M50d3.1	3km northwest to the Beytüşşebap district center, and about 1km northwest of Ilıcak Village.	N-S: 13.60 × 12.70m E-W: 10.50 × 10.70m
Navdirhan Dirhe 2	M50d4.1	250m northwest of dirhe M50d3.1.	N-S: 18.20 × 11.50m E-W: 14 × 11.20m
Navdirhan Dirhe 3	M50d4.2	100m north of dirhe M50d4.1.	N-S: 12.30 × 12.30m E-W: 11.60 × 14.30m
Navdirhan Dirhe 4	M50d4.3	300m west of dirhe M50d4.2.	N-S: 16.40 × 15.70m E-W: 10.30 × 10m
Cevizağacı Road Dirhe	M50d4.5	6.5km northwest of the Beytüşşebap district center, in the eastern skirts of Mount Kato, 600m southeast of Cevizağacı Village, right on the north of the road.	S: 5.10m
Cevizağacı Dirhe 1	M50d4.6	Inside Cevizağacı Village.	N-S: 10.40 × 13.60m E-W: 11.50 × 12.80m
Cevizağacı Dirhe 2	M50d4.7	400m northeast of dirhe M50d4.6.	N: 11.90m W: 14m
Mezra Dirhe 1	M50d2.4	Inside the Mezra Village, 9km north of Beytüşşebap.	N-S: 12.40 × 13.10m E-W: 7.40 × 8.50m
Mezra Dirhe 2	M50d2.5	300m northwest of dirhe M50d2.4.	N-S: 10.50 × 11m E-W: 9.80 × 9.20m
Mezra Dirhe 3	M50d2.6	100m southwest of dirhe M50d2.5.	N-S: 7.20 × 6.80m E-W: 7.60 × 7.70m

Name	*Code*	*Location*	*Dimension*
Mezra Road Dirhes	M50d2.3	1.5km southwest of dirhe M50d2.4. The two dirhes have been built side by side.	1st dirhe N-S: 9.80 × 11.20m E-W: 8.30 × 9.10m 2nd dirhe S: 10.20m E-W: 5.90 × 6m
Taşkıran Dirhe	M50d2.2	1.2km to southwest dirhe M50d2.3.	-
Sergivande Dirhe	M50d3.4	1.2km southeast of dirhes M50d2.2.	N: 8.90m E: 10m
Çığlıca Road Dirhe	M50d3.2	500m southeast of Çığlıca Village.	N: 10.90m W: 8.10m
Çığlıca Dirhe 1	M50d3.3	750m northwest of dirhe M50d3.2.	N: 6.20m
Çığlıca Dirhe 2	M50d2.1	100m east of dirhe M50d3.3.	N-S: 7.60 × 9.70m E-W: 10.50 × 7.10m
Sinekli Meydan Dirhes 1 and 2	M50d3.5	2.6km northwest of the Beytüşşebap district center. The dirhes have been positioned side by side.	1st dirhe N-S: 11.10 × 1.80m E-W: 8.20 × 10.20m 2nd dirhe N-S: 6.70 × 7.60m E-W: 9.70 × 11.40m
Sinekli Meydan Dirhe 3	M50d3.6	200m north of dirhes M50d3.5.	N-S: 10.9 × 12.10m E-W: 11 × 11.80m
Beytüşşebap Dirhe 1	M50d3.8	400m southeast of the district center.	N-S:10: 9.80 × 9.10m E-W: 10.30 × 10.40m
Beytüşşebap Dirhe 2	M50d3.9	450m west of dirhe coded M50d3.8.	W: 10.80m
Beytüşşebap Dirhe 3	M50d3.10	300m southwest of dirhe coded M50d3.9.	-
Mağara Dirhe 1	M50d3.11	1.7km southeast of the Beytüşşebap district center, 300m northeast of Mağara Village.	N-S: 10.50 × 10.10m E-W: 8.70 × 9.20m
Aşağı Dere Dirhe 1	M50d4.8	1km southwest of Aşağı Dere Village.	N-S: 7.40 × 14m E-W: 9.20 × 14m
Aşağı Dere Dirhe 2	M50d4.9	100m northeast of dirhe M50d4.8.	N-S: 10.10 × 11m W: 5.75m

Name	*Code*	*Location*	*Dimension*
Aşağı Dere Dirhe 3	M50d4.10	100m east of dirhe M50d4.9.	N-S: 11.20 × 11.50m E-W: 7 × 6.20m
Aşağı Dere Dirhe 4	M50d4.11	50m southeast of dirhe M50d4.10.	-
Başaran Dirhe 1	N50a2.1	400m southeast of Başaran Village.	N-S: 11.40 × 13.10m E-W: 7.80 × 7.90m
Başaran Dirhe 2	N50a2.2	300m northwest of dirhe N50a2.1.	N-S: 8.10 × 13.10m E: 8m
Başaran Dirhe 3	N50a2.3	100m northwest of dirhe N50a2.2.	-
Harguriya Dirhe 1	N50a2.5	1.6km southeast of Başaran Village.	N-S: 15.60 × 16.30m E-W: 12.90 × 13.50m
Harguriya Dirhe 2	N50a2.6	200m east of dirhe N50a2.5.	N: 6.60m W: 10m
Harguriya Dirhe 3	N50a2.7	150m east of dirhe N50a2.6.	NW-SE: 11.30 × 10.90m SW-NE: 7.70 × 10.30m
Harguriya Dirhe 4	N50a2.8	250m south of dirhe N50a2.5.	NE-SW: 10.60 × 10.20m SE-NW: 5.50 × 7.70m
Harguriya Dirhe 5	N50a2.9	200m northwest of dirhe N50a2.5.	N-S: 7.50 × 5m E-W: 9.40 × 9.90m
Harguriya Dirhe 6	N50a2.10	20m southwest of dirhe N50a2.9.	NW-SE: 7.50 × 8.30m NE-SW: 7.40 × 7.80m
Harguriya Dirhe 7	N50a2.11	70-80m north of dirhe N50a2.10.	-
Harguriya Dirhe 8	N50a2.12	50m west of dirhe N50a2.11.	N-S: 11.50 × 12.30m E-W: 13.50 × 14m
Harguriya Dirhe 9	N50a2.13	150m southwest of dirhe N50a2.12.	-
Harguriya Dirhe 10	N50a2.14	100msoutheast of dirhe N50a2.13.	NE-SW: 12.20 × 10.20m SE-NW: 8.90 × 10.70m
Harguriya Dirhe 11	N50a2.15	1km west of dirhe N50a2.5.	N-S: 18.20 × 18m E-W: 9.30 × 11m

Table 4. The Beytüşşebap dirhes.

Name	*Code*	*Location*	*Period*
İsimsiz Tepe Mound (Gri Kora Silif)	M50d4.4	100m northwest of dirhe M50d4.2.	Early/Middle Iron Age
Ava Şorki Mound	M50d2.8	300m northeast of dirhe M50d2.	Early/Middle Iron Age
Girke Aco Mound	M50d2.7	100m to the south of dirhe M50d2.6, about 500m to the southwest of the Ava Şorki.	Early/Middle Iron Age

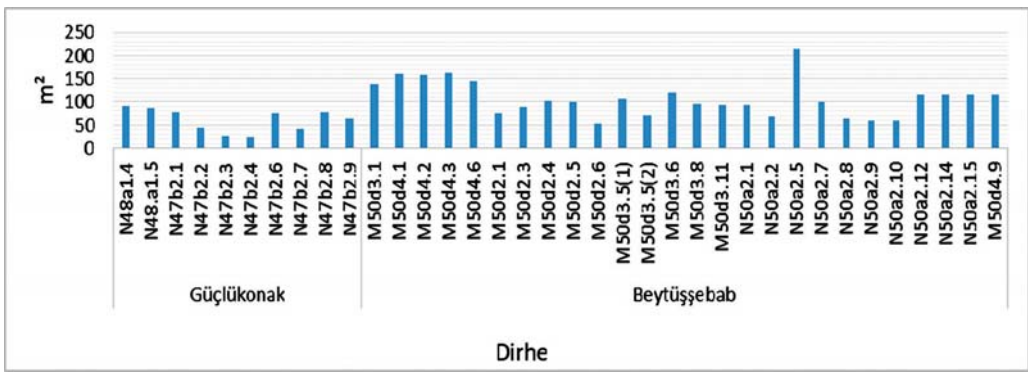
Table 5. The Beytüşşebap settlements.

Name	*Code*	*Location*	*Type*
Başaran Tomb	N50a2.4	100m southeast of dirhe N50a2.3.	Chamber Tomb
Harguriya Tomb 1	N50a2.16	650m northwest of dirhe N50a2.5.	-
Harguriya Tomb 2	N50a2.17	200m east of dirhe N50a2.6.	Chamber Tomb
Harguriya Tomb 3	N50a2.18	100m west of dirhe N50a2.15.	Chamber Tomb

Table 6. The Beytüşşebap tombs.

Name	*Code*	*Location*	*Dimension*
Sinekli Meydan Stone Quarry	M50d3.7	400-450m east of the Sinekli Meydan dirhes.	App. 100m in diameter
Harguriya Stone Quarry	N50a2.19	250m south of dirhe N50a2.5.	App. 50-60m in diameter

Table 7. The Beytüşşebap quarries.



POTTERY CATALOGUE

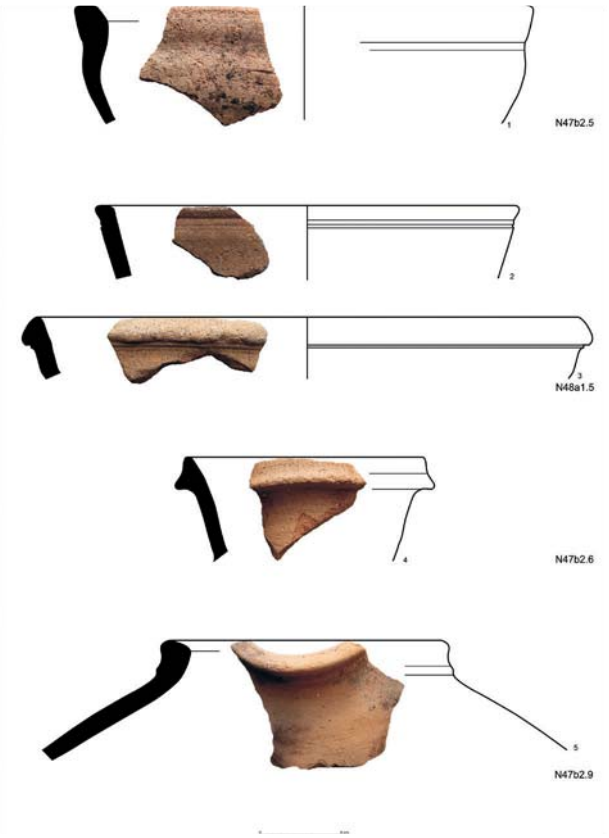


Plate 1. Drawings of the pottery gathered at dirhes and fortresses at the outskirts of Gabar Mountain.

Plate 1

1. ∅ 24cm. 7.5 YR 6/4 light brown paste, self-slipped (inside), 10 YR 7/4 cream slipped (outside), medium gritty and chaff-tempered, medium fired, slightly burnished, wheel-made. N47b2.5
2. ∅ 23cm. 5 YR 5/6 brown paste, self-slipped, black mottled, medium gritty and chaff-tempered, medium fired, slightly burnished, wheel-made. N48a1.5
3. ∅ 30cm. 10 YR 7/6 cream paste, self-slipped, medium gritty tempered, medium fired, wheel-made. N48a1.5
4. ∅ 13cm. 5YR 5/8 brown paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. N47b2.6
5. ∅ 15cm. 5 YR 5/8 brown paste, self-slipped, black mottled, medium gritty tempered, medium fired, slightly burnished, wheel-made. N47b2.9

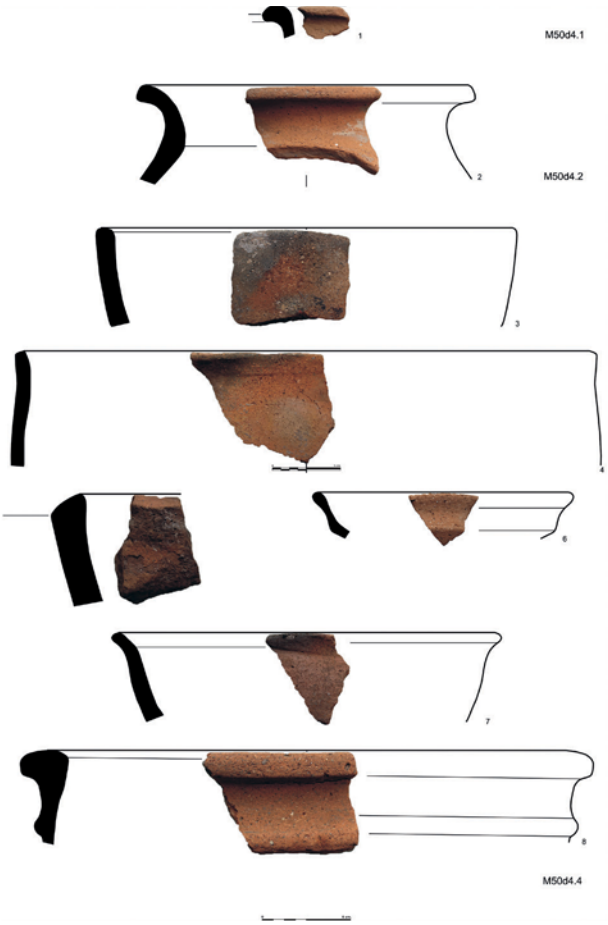


Plate 2. Drawings of the pottery gathered at M50d4.1, M50d4.2, M50d4.4.

Plate 2

1. 7.5 YR 6/6 light brown paste, self-slipped, medium gritty and chaff-tempered, medium fired, wheel-made. M50d4.1
2. ∅ 18cm. 5 YR 5/6 brown paste, self-slipped, medium gritty and chaff-tempered, medium fired, wheel-made. M50d4.2
3. ∅ 23cm. 2.5 YR 6/8 pink paste, self-slipped, black mottled, medium to coarse gritty tempered, poor fired, wheel-made. M50d4.4
4. ∅ 41cm. 2.5 YR 6/8 pink paste, self-slipped, black mottled, medium to coarse gritty and chaff-tempered, medium fired, wheel-made. M50d4.4
5. 5 YR 5/6 brown paste, self-slipped, black mottled, coarse gritty and chaff-tempered, poor fired, wheel-made. M50d4.4
6. ∅ 14cm. 7.5 YR 7/4 cream paste, self-slipped, medium gritty and chaff-tempered, medium fired, wheel-made. M50d4.4
7. ∅ 21cm. 5 YR 5/6 brown paste, self-slipped, black mottled, medium gritty tempered, medium fired, burnished, wheel-made. M50d4.4
8. ∅ 29cm. 5 YR 5/6 brown paste, self-slipped, coarse gritty tempered, poor fired, wheel-made. M50d4.4

Plate 3. Drawings of the pottery gathered at M50d4.4.

Plate 3

1. ∅ 14cm. 2.5 YR 6/8 pink paste, self-slipped, medium gritty tempered, medium fired, wheel-made. M50d4.4
2. ∅ 18cm. 7.5 YR 5/6 brown paste, self-slipped, black mottled, medium gritty and chaff-tempered, medium fired, wheel-made. M50d4.4
3. ∅ 5cm. 2.5 YR 6/4 pink paste, self-slipped, medium gritty tempered, poor fired, wheel-made. M50d4.4
4. ∅ 16cm. 2.5 YR 6/6 pink paste, self-slipped, coarse gritty and chaff-tempered, medium fired, slightly burnished, wheel-made. M50d4.4
5. ∅ 18cm. 5 YR 5/6 brown paste, self-slipped, black mottled, coarse gritty tempered, poor fired, slightly burnished, wheel-made. M50d4.4
6. ∅ 27cm. 2.5 YR 6/6 pink paste, self-slipped, black mottled, medium gritty tempered, medium fired, slightly burnished, wheel-made. M50d4.4
7. ∅ 36cm. 2.5 YR 6/6 pink paste, self-slipped, black mottled, medium gritty and chaff-tempered, medium fired, slightly burnished, wheel-made. M50d4.4

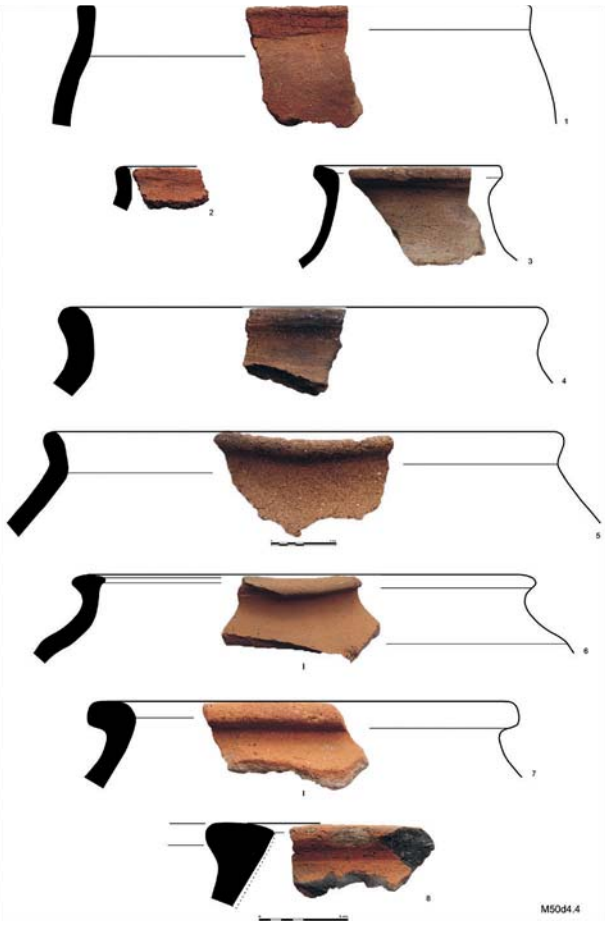


Plate 4. Drawings of the pottery gathered at M50d4.4.

Plate 4

1. ∅ 24cm. 2.5 YR 4/2 light brown paste, self-slipped, black mottled, medium gritty tempered, poor fired, slightly burnished, wheel-made. M50d4.4
2. 2.5 YR 4/8 red paste, self-slipped, coarse gritty and chaff-tempered, medium fired, slightly burnished, wheel-made. M50d4.4
3. ∅ 10cm. 7.5 YR 5/6 brown paste, self-slipped, medium gritty and chaff-tempered, medium fired, wheel-made. M50d4.4
4. ∅ 26cm. 5 YR 5/4 brown paste, self-slipped, black mottled, coarse gritty and chaff-tempered, poor fired, slightly burnished, wheel-made. M50d4.4
5. ∅ 38cm. 7.5 YR 5/6 brown paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. M50d4.4
6. ∅ 24cm. 7.5 YR 5/6 brown paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. M50d4.4
7. ∅ 22cm. 2.5 YR 6/6 pink paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. M50d4.4
8. 2.5 YR 6/8 pink paste, self-slipped, medium to coarse gritty tempered, poor fired, wheel-made. M50d4.4

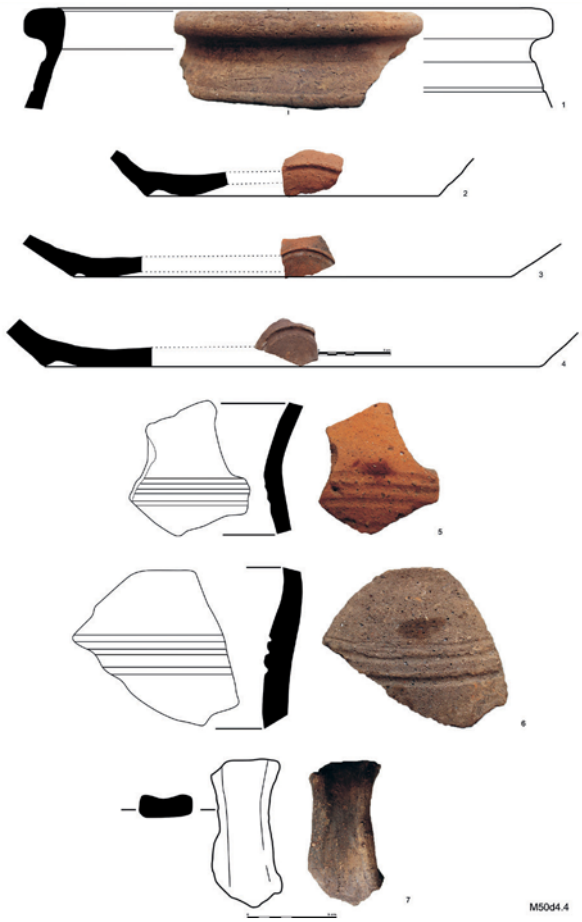


Plate 5. Drawings of the pottery gathered at M50d4.4.

Plate 5

1. ∅ 32cm. 2.5 YR 5/6 red paste, self-slipped, black mottled, medium to coarse gritty and chaff-tempered, poor fired, wheel-made. M50d4.4
2. ∅ 20cm. 2.5 YR 6/8 pink paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. M50d4.4
3. ∅ 30cm. 2.5 YR 5/6 red paste, self-slipped, black mottled, medium to coarse gritty tempered, medium fired, wheel-made. M50d4.4
4. ∅ 34cm. 5 YR 5/6 brown paste, self-slipped, black mottled, medium to coarse and chaff-tempered, medium fired, wheel-made. M50d4.4
5. 2.5 YR 6/8 pink paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. M50d4.4
6. 7.5 YR 5/6 brown paste, self-slipped, black mottled, medium to coarse gritty and chaff-tempered, poor fired, wheel-made. M50d4.4
7. 7.5 YR 5/6 brown paste, self-slipped, black mottled, medium to coarse gritty and chaff-tempered, poor fired, hand-made. M50d4.4

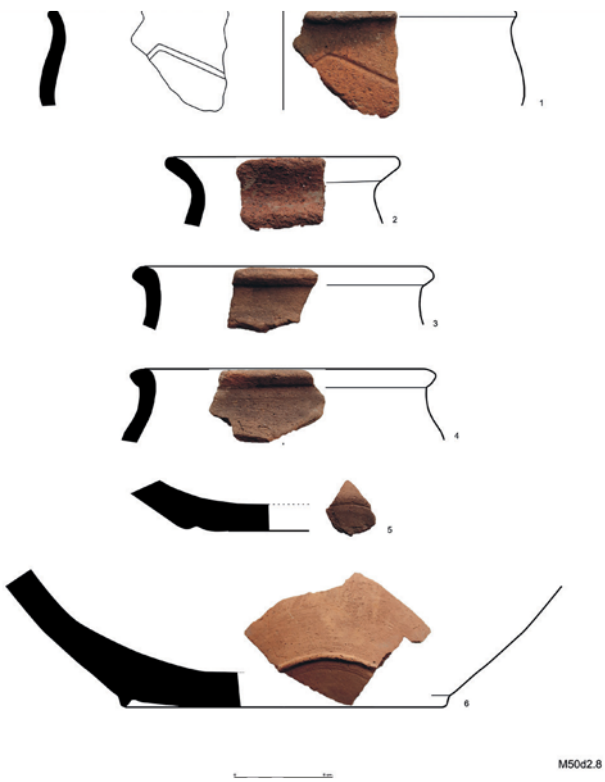


Plate 6. Drawings of the pottery gathered at M50d2.8.

Plate 6

1. ∅ 23cm. 2.5 YR 6/8 pink paste, self-slipped, medium to coarse gritty tempered, medium fired, wheel-made. M50d2.8
2. ∅ 11cm. 2.5 YR 6/6 pink paste, self-slipped, coarse gritty tempered, medium fired, slightly burnished, wheel-made. M50d2.8
3. ∅ 14cm. 5 YR 5/4 brown paste, self-slipped, black mottled, medium gritty and chaff-tempered, medium fired, wheel-made. M50d2.8
4. ∅ 14cm. 2.5 YR 5/6 pink paste, self-slipped, black mottled, medium gritty and chaff-tempered, medium fired, wheel-made. M50d2.8
5. 5 YR 5/6 brown paste, self-slipped, black mottled, coarse gritty tempered, medium fired, wheel-made. M50d2.8
6. ∅ 16cm. 2.5 YR 6/8 pink paste, self-slipped, coarse gritty and chaff-tempered, medium fired, wheel-made. M50d2.8

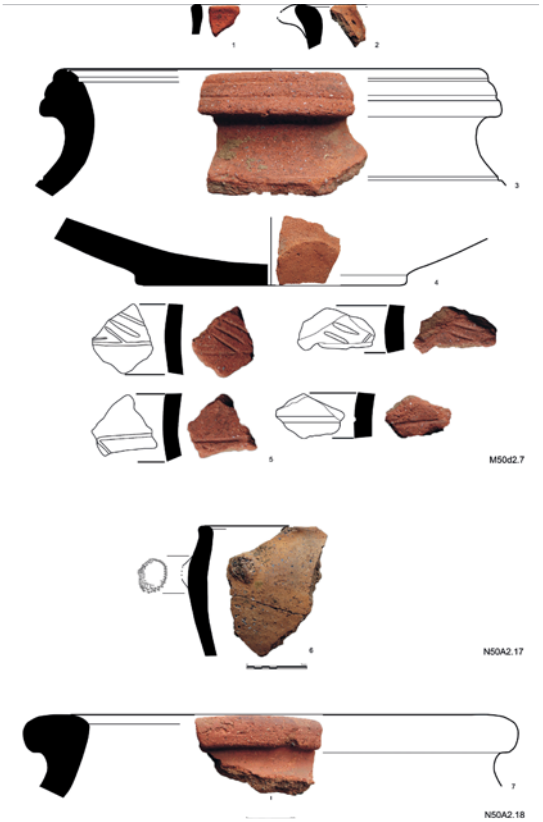


Plate 7. Drawings of the pottery gathered at M50d2.7, N50a2.17, N50a2.18.

Plate 7

1. 2.5 YR 6/8 pink paste, self-slipped, fine gritty tempered, fine fired, wheel-made. M50d2.7
2. 2.5 YR 6/8 pink paste, self-slipped, black mottled, coarse gritty and chaff-tempered, poor fired, wheel-made. M50d2.7
3. ∅ 26cm. 10 YR 6/6 pink paste, self-slipped, coarse gritty tempered, medium fired, wheel-made. M50d2.7
4. ∅ 16cm. 10 YR 6/6 pink paste, self-slipped, coarse gritty and chaff-tempered, poor fired, wheel-made. M50d2.7
5. 10 YR 6/6 pink paste, self-slipped, medium gritty tempered, medium fired, wheel-made. M50d2.7
6. 10 YR 7/6 cream paste, self-slipped, black mottled, medium to coarse gritty and chaff-tempered, medium fired, slightly burnished, wheel-made. N50a2.17
7. ∅ 31cm. 10 YR 6/6 pink paste, self-slipped, medium to coarse gritty and chaff-tempered, medium fired, wheel-made. N50a2.17

AN ARCHAEOLOGICAL APPROACH TO DELINEATE THE COURSE OF THE ACHAEMENID ROYAL ROAD IN ANATOLIA

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Abstract

The Achaemenid Royal Road was one of the crucial aspects of the Achaemenid imperial governance through which the affairs of this great empire were carried out. This major thoroughfare which on account of Herodotus' reference extended from Sardis to Susa, was only one component of a more extended route network and allowed the Achaemenids to access and control conquered cities. Anatolia by the greatest number of the satrapies has played an important role in the center of this dominion. So far, determination of the actual course of the "Royal Road" has been subject to much discussion due to ambiguities and discrepancies of historical explanations. Moreover, there has been little focus for archaeological research about the course of the "Royal Road" in Anatolia. The purpose of this article is to reappraise and delineate the course of the "Royal Road" in Anatolia during 550-330 BC concentrating mainly on the archaeological sites. To introduce a model for designating this road, the approach assumes that successive Achaemenid settlements are associated with this road. Therefore, the itinerary is retraced by recording the Achaemenid settlements based on the gamut of archaeological evidence, geographical features, diverse precursors to the "Royal Road", and historical records where available. A new prospect is proposed, according to which the Achaemenid Royal Road extends more westward than what has been assumed before. An appreciation of this trunk line presents not only an invaluable opportunity to identify Achaemenid political and administrative might but also a proper understanding of the Achaemenid settlements in Anatolia.

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INTRODUCTION

Literature review

Anatolia – the land that equates to most of modern Turkey in Asia – is a peninsula that is encircled by seas on three sides and separated from the rest of the Near East by high mountains. Intricate geological phenomena have created regional individualities suitable for living. Therefore, Anatolia has been taken into consideration from ancient times on account of rich natural resources, strategic places, fertile soil and easy access to riparian boundaries and water bodies. According to classical sources the ethnic groups inhibited Anatolia were varied during the first millennium BC and equally at the time of Cyrus' arrival in 546 BC. The major traditional regions were Lydia, Phrygia, Cappadocia, Cilicia, Pamphylia, Pisidia, Lycia, Caria, Ionia, Mysia, Paphlagonia, and Pontus (Steadman and McMahon 2011: 16).

Based on the geographical and administrative units of the Achaemenid Empire called satrapies, referring to the Behiston inscription (Sharp 2009) and the carvings on the eastern staircase of the Apadana at Persepolis, and historical texts, in particular Herodotus' list of provinces (Hdt. 3.90-94), Anatolia was one of the most dominated landmass in the second half of the first millennium BC at the latest phase of the Late Iron Age. When Anatolia was incorporated to the Achaemenid Empire, it was divided to satrapies in order to be administrated more aptly. The whole empire was more integrated through regional formations interlinked by trans-regional and interregional relations. Therefore, the network of roads was required to accelerate royal communication. The "Royal Road" appears to have been a designated thoroughfare for couriers between main centers.

As it is well known, the only historical text which has directly introduced the "Royal Road" is Histories. Herodotus quoted that it was a well-equipped road which traversed prosperous places and was measured on the quantitative scale of 'parasang'[1]. In detail he described only one of the roads which connected Ephesus and Sardis with Susa at 90 days' distance and 450 'parasangs'; Ctesias in the lost close of his Persian history gave similar details for the road to Bacteria and India (Nichols 2008: 109). The "Royal Road" passed from Sardis (ancient capital of Lydia) to reach the Halys River (modern Kızılırmak), then passed through the Cilician Gates, thence ran eastwards to the Euphrates River and continued towards Susa (the Achaemenid administrative official capital). There were 110 posting stations and inns at intervals of about four 'parasangs'; and at certain strategical points there were garrisons: of these Herodotus mentions four between Sardis and Susa – one at the Halys, and two on the boarders of Cilicia. The larger rivers which were not bridged were crossed by pontoons (Hdt. 5.52-54). At posting stations along the routes couriers mounted on swift horses stood always in readiness to carry forward the king's

[1] Greek authors often gave distances in terms of 'parasangs' when describing distances within the Persian Empire. Herodotus regards the 'parasang' as a unit of road measurement, and states the equation 1 'parasang' = 30 'stades'. Many believe 'parasang' represents the distance covered in an hour, which would vary according to topography and season (Tuplin 1997: 404).

decrees, and whereas travelers normally took nearly three months from Sardis to Susa, the king's dispatches may have passed over the same road in a week (Hdt. 8.98).

Two major hypotheses of alternative routes have been proposed for intrinsic ambiguities in Herodotus' description which are northern and southern hypotheses. The possible reasons for the discrepancies are as follows; few topographical details, meager toponyms, disputable river passes, the long distance between the Cilician Gates and the Euphrates River, disproportion of the recapitulated total and detailed list of the number of royal stations and intervals, and nebulous concept of measurement unit. Ordinarily, the knowledge of the topography and historical records relevant to this road have been used to delineate the course of the road. In addition, as the intervals have been recorded, the succession of the earlier or later routes has also been considered.

The "northern hypothesis" suggests that the "Royal Road" should pass through arable northern area of the Tuz Gölü, the salt lake located in the central Anatolian region, rather than southern area of barren salt-steppe. Earlier Assyrian and Hittite routes are also mentioned as substructures of the "Royal Road". The general itinerary continues northeast of Sardis before crossing the Halys River; however, two alternative routes are suggested afterwards. The first one runs southeast through the highland of Kayseri or Mazaca, and the other one goes directly southwards crossing the Cilician Gates and then crossing over the Euphrates at Zeugma (Kiepert 1857; Ramsay 1890; Hogart 1895; Dillemann 1962; Young 1963; Landle 1987; Graf 1994; Muller 1994; Debord 1995) (Fig. 1).

The "southern hypothesis" concentrates on the shortest way due to the administrative purpose of the "Royal Road". The Halys River assumed as an ornamental touch is overlooked (Ramsay 1920: 90). The itinerary is delineated either by reference to Cyrus' march eastwards from Sardis in 401 BC (Xen. An. 1.2), which was identified entirely with the "Royal Road" (Calder 1925), or the later Roman road described by Strabo (14.2.29), which postulated to overlay on the Achaemenid Royal Road (French 1998) (Fig. 2).

Fig. 1. Map of alternative routes for the "northern hypothesis" (authors).

Fig. 2. Map of alternative routes for the "southern hypothesis" (authors).

Although, some archaeological researches have been carried out in particular with limited scopes, the identified routes have been either secondary roads or not placed in Anatolia. For instance, those successive sites identified as royal stations in Iran (Wright and Neely 2010; Askari Chaverdi *et al*. 2010), the settlement pattern classified as major and secondary administrative cores in Palestine (Roll and Tal 2008), hieroglyphic graffiti used during the reign of Darius the Great in Upper Egypt (Di Cerbo and Jasnow 1996), and the hollow ways identified as roads dated to the Neo-Assyrian period in northern Mesopotamia (Wilkinson *et al*. 2005) show signs of the route network under Achaemenid authority.

Factual evidence that supports the course of the road

The disintegration of Anatolian political units did not mean the complete elimination of all roads. Moreover, the Achaemenid administrators never seemed to have had enough time and laborers to construct the whole course of a new road by their own due to a somewhat rapid transition of political power. Forasmuch as a road is principally defined a communication way between two or more centers of human activities, its information can be gleaned from the surrounding terrains. Those sites which witness prolonged period of settlement occupation may be considered not only as major network cores for economic, political and religious influence but also the main centers to control significant roads. If the sites have been occupied constantly, it is viable to presume that the course of the roads linking them may have remained fairly steady.

Generally speaking, a relatively earlier presence of strong administrative and economic interactions and military conflicts suggest the presence of older routes. On this account, the "Royal Road" could have relied on earlier routes which have linked significant former

trading, religious or power centers. Moreover, enclosed or fortified areas act as attractors, and corresponding unstable points act as repellers. It is very probable, however, that the Achaemenids used those routes, which covered the outmost inchoate satrapies, to control divergent regions. Meanwhile appointing Satraps, who were normally chosen amongst elites, resulted in ensured administrative activities which facilitated the crossroad services. The so-called royal stations and post guards supposedly once stood inside the settlements or between them along the roadway.

Tumuli may point to the existence of settlements situated in peripheral zones (Roosevelt 2006: 71). Therefore, it is conceivable that tumuli consisting either Achaemenid style objects or architectural characteristics, specify a nearby Achaemenid settlement. Furthermore, looking at how topographic barriers funneled movement, the presence of a stable network of successive settlements may have demarcated the course of the "Royal Road" in Anatolia.

However, enjoying a hardheaded archaeological approach, it is indispensable to indicate the substantial evidence supporting the Achaemenid presence in the regions under discussion. Pottery remains are invaluable for ascertaining the occupation of the region by Achaemenid communities, with prevalent clay cups without handles and with flaring rims, which were found all across the satrapies and grouped as shallow or deep bowls or as the "Achaemenid bowl", being in direct connection with the Achaemenid settlements (Dusinberre 1999: 76, 101, 103). Besides and accompanying "Achaemenid bowls", further evidence such as the objects, seals, and seal impressions which reflect imperial Achaemenid iconography, small monuments such as fire altars, and the architectural style and stone cutting techniques which characterize this period, give exclusive access to the settlements as residencies or fortresses (Sumner 1986: 4, 7; Dusinberre 2003: 75-76; Dusinberre 2010: 333, 328-329).

Up until now, no cultural material that can be clearly defined as Achaemenid have been found in the upper Tigris region. However, this may not be indicating their lack of presence in this area but the complexities of the Achaemenids' political outlook with little interest in this area or a probable use of available local ceramics. The spread of the "Triangle Ware", which is considered to be a mark of the "Post Assyrian" period in the upper Tigris region (Matney *et al*. 2007: 43; Laneri 2016: 103), overly supports this assumption. As a consequence, the Achaemenids probably controlled and followed the road of communication but not the areas far apart from the Tigris River (Sagona 2004: 89).

Materials and methods

The method, which we have applied to determine the course of the road, concentrates on identification of major successive Achaemenid settlements which are assumed to be link to each other by a road. The information and location of the sites have been drawn from the published archaeological research, historical records, and certain visual cartographic materials, including the topographical map of modern Turkey, and also using remote sensing methods.

Daskylion

Location: 2 km west of Ergili village near Manyas Lake on the district of Bandırma. It is equates with Hisar Tepe.

Periods occupied: From the eight century BC to the Byzantine period.

Daskylion identified as the satrapy of "Tayaiy Drayahya" was mentioned on inscriptions DB, 6; DPe, 2; XPh, 3, from which access to Sakae over the sea was probable (Schmitt 1972: 526). The city was the center of the Persian satrapy, from which the demesne of Hellespontine Phyrgia was ruled over (Xen. Hell. 4.1.15).

Hundreds of seal impressions (the corpus of bullae) (Fig. 3) strengthen the presence of an Achaemenid administrative archive (Kaptan 2007: 281, 287-288). The mortuary stelae (Hanfmann 1966: 10) (Fig. 4), bronze arrows, lead bullets, and harnesses which resemble those at Persepolis, infrastructure of a great edifice as the satrap's residence inside the settlement surrounded by fortification walls, the sanctuary place with a Persian style fire altar (Bakir 2003: 1-12), one segment of northwestern-southeastern road interpreted as a cult way of a 19 m length and a 6 m width under the Hellenistic layer (Coşkun 2005: 64) (Fig. 5), an Achaemenid bowl found in the burnt layer before Alexander invasion (Coşkun 2006: 53) attest Daskylion as a fortified Achaemenid period settlement.

Conclusive archaeological evidence shows that Daskylion has been a multicultural city for the trade activities during both the Lydian and Achaemenid periods and connection with Lydia has continued without interruption (Bakır 1995: 273). A cylinder seal in the name of Artimas, a Lydian satrap, found in Daskylion (Abe 2012: 8) could have increased the interaction through the possible extension of the mentioned excavated road. Although Herodotus proposed Ephesos as the other terminal by three days walk from Sardis, it seems as if he remarked that part of the road which directly concerned him.

The geographical location of Daskylion adjacent to the Sea of Marmara and Bosphorus strait also makes it a communicative gateway towards the western part of Anatolia.

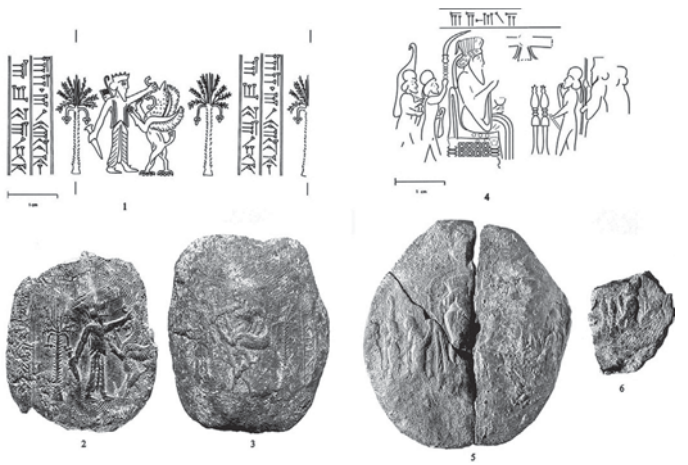

Fig. 3. Daskylion seal impressions. 1: Composite drawing of DS 3; 2, 3: DS 3; 4: Composite drawing of DS 4; 5, 6: DS 4, "the enthroned king" (Kaptan 2007: 287-288).

Fig. 4. Fragmentary stone relief from Daskylion (Abe 2012: 17).

Flourishing over so long a period, Daskylion could have reasonably been considered as a pivotal station along the Royal Road not only for communication with eastern part of Anatolia but also for further connection to western areas. In all probability, those western Achaemenid period settlements relevant to Granicus tumuli such as Dedetepe, Kızöldün and Çan (Brian Rose 2013: 127) could have been connected with Daskylion via a secondary route where the Thracians as a courtesy to Xerxes' army avoided cultivating (Hdt. 7.115).

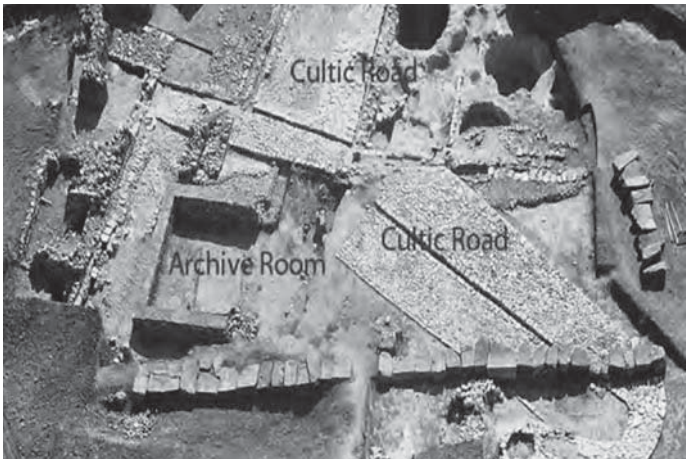

Fig. 5. Cultic road in Daskylion (İren 2010: 259).

Şahankaya

Location: in the high basin of the district of Gördes in the western Turkey.

Periods occupied: From the Achaemenid period to the Byzantine period.

The fortification site of Şahankaya situates on a section between the two peaks of a rock in a relatively uninhabited basin. It predominates the landscape in northern Lydia by its height and provides a visual catchment of the entire surrounding. Its panorama with Sardis and many other areas makes it a very strategic place. A peculiar cubic pedestal, propping a rounded stone projection topped by a shallow tub on the top of the stronghold has been known as a Persian-style fire altar (Fig. 6) (Dusinberre 2013: 85, 103). Roughly similar stone depressions have been observed around Rahmat Mountain in the province of Fars in Iran (Malekzade 1971: 19). These may have applied to be used as braziers for

Fig. 6. Fire bowl at Şahankaya (Dusinberre 2013: 103).

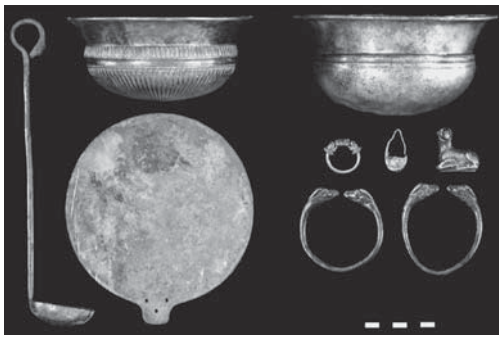

Fig. 7. Selected items from Gökçeler tumulus. MM 4611-16, 5288-90 (Dusinberre 2013: 151).

Fig. 8. Lead sling bullet of Tissaphernes with inscription (Foss 1975: Pl. 5).

visual communication. In conformity with Behiston inscription (DB 6), Darius laid emphasis on carrying out his orders day and night (Sharp 2009). He indicates obliquely on broadcasting service in the depth of night.

The Persian style objects of the deceased from Gökçeler tumulus (Fig. 7) at the base of the stronghold signify the Achaemenid presence in this location (Dusinberre 2013: 150-151). The appropriate situation of Şahankaya at 20 km east of Gördes (ancient Julia Gordus), where a lead sling bullet inscribed in Latin with the name of Tissaphernes as the satrap of Achaemenid Empire was found (Fig. 8) (Foss 1975: 30, Pl. 5), increases the protective function of this watchtower via the mountain route as a part of the "Royal Road" from Daskylion to Sardis.

Lale Tepe

Location: The tumulus is one of 17 tumuli around the modern city of Ahmetli, 11 km west of Sardis.

Periods occupied: Achaemenid period, perhaps in the early 5th century BC.

In spite that the tumulus has been plundered, the composition and general construction are similar to Bin Tepe tumuli of the 6th and 5th century BC. The technical and decorative details relevant to Klinai, together with ceramics and bones from 7 contexts attest this Achaemenid tomb as a family mausoleum with burial ceremonies were repeatedly conducted (Roosevelt 2008: 1-2, 12-15). Taking the road from Daskylion to Sardis into consideration, an Achaemenid period settlement relevant to Lale Tepe can be highly expected around west of Sardis.

Sardis

Location: At the foothills of the Mount Tmolus about 90 km east of Izmir and 4 km from Hermus River (modern Gediz).

Periods occupied: From the Early Bronze Age to the Roman Period.

Bilingual inscriptions (Lydian/Aramic-Lydian/Greek) show that Lydian, Achaemenid, and west Aegean dignitaries have settled in this multi period site. Moreover, the locally produced Achaemenid bowls (Fig. 9) from eight separate deposits between the Hellenistic and Lydian levels near the east of the city wall (Dusinberre 1999: 74-75, 78, 103), affluent stamp and cylinder seals (Fig. 10) made of gold and chalcedony reveal an important Achaemenid occupation where cohesion of the Achaemenid elites between the satrapal and central capitals could be possible (Dusinberre 2010: 323).

Fortification tablets of Persepolis (PFT 1321/1401) (Dusinberre 1999: 73) and historical documents mention travel from Sardis to Susa and vice versa. Two Achaemenid kings, Darius the Great and Xerxes, sojourned at Sardis, and two satraps, Artaphernes and Cyrus the younger, were kings' brothers (Steadman and McMahon 2011: 1121). In all probability, a major communication route may have linked Sardis and Hattusha/Boğazköy (the capital of the Hittite empire) as both centers had been old capitals and crucial trading centers (Garstang 1943: 41). The mentioned route could have been a part of the "Royal Road" during Achaemenid period (Starr 1963: 632).

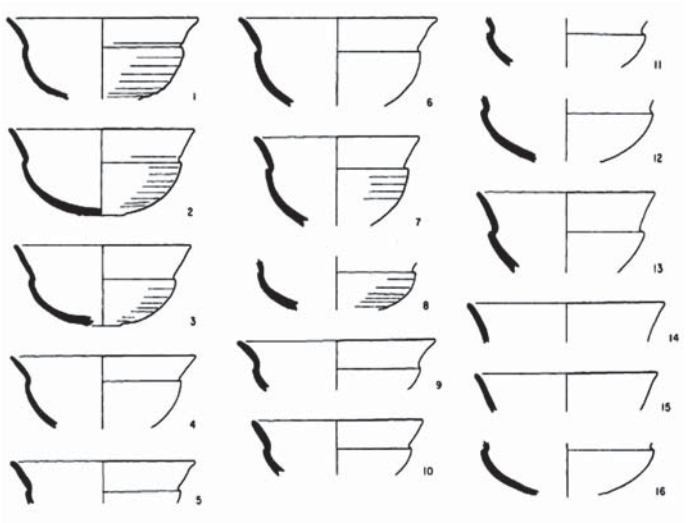

Fig. 9. Drawings of Achaemenid bowls from deposit 1, Sardis (Dusinberre 1999: 103).

Fig. 10. Signet seal from Sardis. IAM 4523, lion and bull combat (Dusinberre 2003: 278).

The Tumuli at Uşak-Güre

Location: 25 km west of Uşak and 100 km east of Sardis.

Periods occupied: 6th century BC.

Recovered items from four looted tumuli bear the stamp of the Achaemenid art (Özgen and Öztürk 1996: 48-53). The finds comprise mostly jewelry from Top Tepe (*ibid.* 52), metal artifacts (*ibid.* 88-89), and the seals from İkiz Tepe (Dusinberre 2013: 72), the paintings of the kline of Ak Tepe (Baughan 2008: 30), and a metal vessel from Basmacı (Akbıyıkoğlu 1991: 22), which support routine or administrative activities in the area. The tumuli might have overlooked the nobles' estates and nearby settlement along the "Royal Road" whereas they are arranged in a linear way adjacent to the Hermus River on the cusp of Lydia and Phrygia (Roosevelt 2006: 72). Furthermore, they would be noted as landmarks along a route for communication at the night.

Seyitömer Höyük

Location: 25 km northwest of Kütahya.

Periods occupied: From the Early Bronze to the late Roman period.

Excavations reveal that an early fortification system had been constantly used over during the later periods. The Achaemenid bowl shreds (both deep and shallow types) (Fig. 11) (Coşkun 2011: 65, 79) and four clay tags with Achaemenid seal impressions found at two contexts at the third layer of Seyitömer Höyük (Bilgen *et al*. 2009: 342-343) (Fig. 12) attest an Achaemenid period settlement on the mound. Fifteen storage jars had been excavated earlier at the same place where the seal impressions were found.

The seal impressions are believed to be tokens for service provision at a warehouse (Kaptan 2005: 362-364). The approximately equal distance of the mound to both satrapal centers of Daskylion and Sardis, increases the presence of a significant midway station along the "Royal Road" and a possible secondary road from Daskylion.

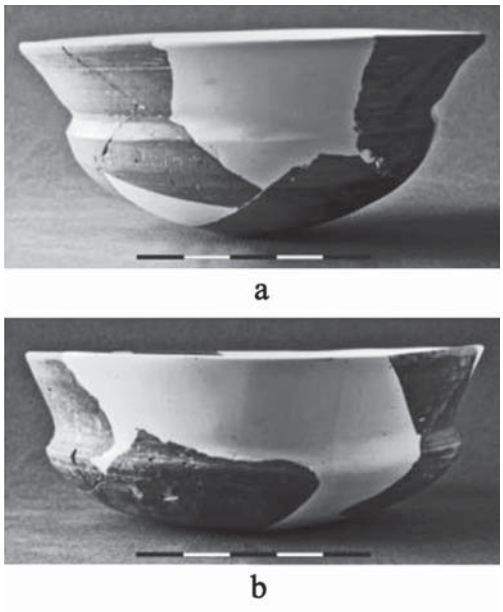

Fig. 11. Achaemenid bowls from Seyitömer Höyük (Coşkun 2011: 79).

Fig. 12. Cylinder seal impressions from Seyitömer Höyük, Kütahya Museum. a: SHS 3.1 on Kt 9401; b: SHS 3. 2 on Kt 9401 (Kaptan 2005: 363-364).

Gordion

Location: 100 km southwest of Ankara and 10 km northwest of Polatlı.

Periods occupied: From the Middle Bronze Age to the Medieval period (Steadman and McMahon 2011: 1074).

The form and size of the mound is typical for long-term settlements, consisting of the monumental fortifications protecting a citadel, a lower town beside it, an outer town to the west and a scattering of tumulus mounds to the north and east (*ibid.* 1069-1070).

Gordion may have founded on an Anatolian military road which possibly functioned already during both in the 3rd millennium BC, according to the Assyrian annals (Young 1963: 351), and during the time of the Hittite Empire (Birmingham 1961: 185-195). Historical texts also represent Gordion as a significant stop along the Royal Road. Pharnabazos, the satrap of Hellespontine Phyrgia, wintered at Gordion in 407 BC (Xen. Hell. 1.4), Agesilaos besieged the city unsuccessfully in 395 BC (McKechnie and Kern 1988: 16.6), and Alexander the Great cut the Gordion knot while following the "Royal Road" in 333 BC (Arrian Anab. 2.3.1-8).

The findings from excavations indicate that Gordion was an important center during Achaemenid Period as well. The Achaemenid bowls (Toteva 2009: 380), the seal and seal impressions (Fig. 13), two splendid administrative constructions adjacent to a drainage (Dusinberre 2010: 328-333), the glass vessels which seem to imitate the ceramic prototypes (Fig. 14) (Kealhofer 2005: 108-113), and the track winding round Phrygian tumuli, which is attributed to the Achaemenid period (Young 1963: 350) (Fig. 15), are linked to an Achaemenid period settlement along a well-frequented road.

Fig. 13. Left: Gordion, cylinder seal 100, "Achaemenid hegemonic". Right: Seal impression 100 (Dusinberre 2010: 329-331).

Fig. 14. Molded glass phial with petal decoration (Kealhofer 2005: 108).

Fig. 15. Gordion, ancient road (Young 1957: Pl. 87).

Büklükale

Location: 60 km southeast of Ankara opposite the modern village of Köprüköy in Karakeçili, exactly on the left bank of the Halys River.

Periods occupied: From the Early Bronze Age to the Ottoman period (Matsumura 2016: 58-60).

As rivers have been often impediments for communication, the geographical location of Büklükale at the narrowest part of the Kızılırmak makes it an important place. The oldest information about crossing the Halys explains that King Croesus wended his way to Pteria through a road that was followed subsequently by Cyrus the Great in his pursuit (Hdt. 1.75).

There are grounds for supposing that the "Royal Road" may have passed through this place. The section of a cobbled road on the western side of the site, which runs toward the remnants of a Roman bridge beside a Seljuk one, some synthetic holes in the rock along the river that could have been applied to support a type of mechanism for crossing the river (Matsumura 2016: 59-60), and a construction with military function dated to the Late Iron Age (Matsumura 2010: 412), which could have been the post guard mentioned by Herodotus, highly attest the extension of the Gordion track towards the Halys River, which was the natural border of Phrygia in the east.

Oluz Höyük

Location: 2 km northwest of the village of Gözlek and 3 km of the Amasya-Çorum highway in north central Turkey.

Periods occupied: From the Early Bronze Age to 14th century AD (Dönmez 2013: 363-364).

The systematic archaeological excavations confirmed the existence of an Achaemenid period settlement including the remains of a roughly quadrangular structure in the 2nd, 3rd, and 4th layers of the Late Iron Age (Dönmez 2014: 61), abundant Achaemenid bowls (Fig. 16), a hollow shaped structure defined as a fire altar, the part of a SW-NE paved road (Fig. 17) (Dönmez and Yurtsever Beyazıt 2014: 124), and lead slings and ingots which reflect the martial prowess of the settlement (Dönmez and Yurtsever Beyazıt 2013: 192).

Fig. 16. An Achaemenid bowl, Oluz Höyük (Dönmez 2014: 63).

Fig. 17. South of the Persian Road extension, 2B architecture layer, Trench A, Oluz Höyük (Dönmez and Yurtsever Beyazıt 2014: 124).

The favorable environment of Oluz Höyük near the fertile Geldingen plain and a tributary of the Yeşilırmak, the Çekerek (Zuliya in Hittite texts), carries implications of considerable interest (Dönmez 2014: 63). The area is not only suitable for an Achaemenid garden, a 'Paradise', but also to deploy and purvey huge groups of people. It may be speculated that Oluz Höyük played an important role in Xerxes' campaign of 480 BC towards Phrygia after recruiting at Critalla (Hdt. 7.26). The archaeological finds of the later period also indicate the military significant of the road in the Roman times (Winfield 1977: 153), when the army was dispatched against the Mithridatic Kingdom of Pontus. The proximity and the accessibility of Oluz Höyük to the temple of Zela (modern Zile) is noteworthy for religious affiliation. The Achaemenids built a temple in Zela for the goddess Anahita in memory of their victory over Scythians who invaded Zela (Strabo 11, 8, 4). A similar temple and fire altar existed in Amasya and were depicted on a Roman bronze coin (Fig. 18) (Dönmez 2007: 109, 114). Moreover, the Achaemenid settlement sites situated on the Black Sea Basin (Beikzadeh and Iravani Ghadim 2017: 144) could have been connected with Oluz Höyük via Erzincan through bypass roads. By the same token secondary roads probably passed further northwest of Oluz Höyük to Paphlagonia through the Terme and Eldivan plains to connect the Achaemenid sites in the area (Johnson 2010: 368).

Fig. 18. Depiction of the fire altar in Amasya on the reverse of a Roman coin (Dönmez 2007: 114).

Uşaklı Höyük

Location: On the southern bank of the Eğri Öz Dere, northwest of the Kerkenes Dağ.
Periods occupied: From the Late Chalcolithic to the Byzantine period.

A long sequence of occupation at Uşaklı Höyük reveals its strategic importance in the area to the east of Yozgat. On the one hand, it is a proper candidate for Zippalanda, the Hittite ceremonial center; on the other hand it lays on the way connecting Bronze Age sites of Alişar Höyük and Kültepe. Today it is situated on a pivotal communication place on the Ankara-Sivas road (Mazzoni *et al*. 2011: 317-318).

Geophysical surveys have revealed the plan of an enormous structure under the ground that is consisted of a courtyard surrounded by small rooms, and which reflects similarities with the Achaemenid architecture known from Tille Höyük in eastern Turkey (*ibid.* 326). The Achaemenid bowls served as a key element to reveal that the major Hittite period of occupation, which included a citadel fortification, was followed by later occupations including the one during the Achaemenid period (Mazzoni *et al.* 2010: 118, 121, 158).

Tilkigediği Tepe

Location: On the northeastern arm of Kerkenes Dağ, and west of the junction of the Şahmuratlı Köy road with the Mehmetbeyli-Sorgun road.

Periods occupied: Late Iron Age.

Nearly all pottery found on Tilkigediği Tepe belong to Achaemenid bowls that restrict the occupation to the Achaemenid period. The mound seems to be circumvallated by the remnants of stone glacis on the northwestern side (Summers *et al.* 1995: 46). The dimension of stones, their gradient and the orderliness of fit are similar to those known from Sümerin Sivri Hisar, the paved slope of Göz Baba tumulus near the Tilkigediği Tepe (Summers 2001: 50) (Summers *et al.* 1995: 53), and Çeşka Kale in the heights around the city of Yozgat, where it looks down on the ancient road to Tavium.

These sites may be representing a regional integrated system of defense, and in fact, Tilkigediği Tepe may be a royal station or a guard post from which the nearby road was controlled (*ibid.* 46). The trajectory of the visible route stretching from the east of the village of Şahmuratlı to Keykavus Kale on Kerkenes Dağ (Summers 2001: 48) supports this view.

Çadır Höyük

Location: 16 km south of Sorgun in the Yozgat province of north-central Turkey, near the village of Peyniryemez in the Kanak Su Basin (Steadman and McMahon 2015: 69).

Periods occupied: From the Middle Chalcolithic Age to the 12th century CE (Steadman *et al.* 2019: 371, 374).

Cultural material, together with architectural and ceramic evidence from the Chalcolithic to Byzantine periods reveal a lengthy occupational sequence at Çadır Höyük (Steadman *et al.* 2017). Similarities in terms of material culture with Alişar Höyük signify an uninterrupted relationship with this settlement (Gorny *et al.* 2002: 121-122); which points to the presence of a route between them. A fortification system from the second millennium BC seem to suggest the substantial Hittite presence at the site dating to this period (Steadman *et al.* 2017: 224). The fortification walls from the Byzantine Period provide a much stronger chronology of occupation for this period (Steadman *et al.* 2015: 106). Most of the Late Iron Age levels at the site are associated with the workspaces perhaps for textile manufacturing (Steadman and McMahon 2015: 76). The Achaemenid bowls found near the probable gate of the fortification wall (Gorny 2004: 21) are an indication of the presence of an Achaemenid period settlement with an economic function probably located along the "Royal Road".

Kınık Höyük

Location: In the province of Niğde at the foothill of Melendiz Mountain at the eastern edge of the Konya Plain (Steadman and McMahon, 2015: 98).

Periods occupied: From the Early Bronze Age to the Ottoman Period (*ibid.* 103).

Kınık Höyük is the largest identified site on the Bor-Ereğli plain with significant surface ceramics (*ibid.* 99). Southern Cappadocia had played an important role since ancient times in the control of the congested road via the Cilician Gates. The main roads passing through the area were disrupted by environmental changes occurring over the centuries as some regional water resources decreased (*ibid.* 123).

However, a continuity of occupation at Kınık Höyük reveals the long-lasting prominence of the location of this site along a well-trodden route which connected central Anatolia to southern Cilicia. An Achaemenid period settlement is attested at Kınık Höyük in conformity with the Achaemenid bowl sherds, kitchenware, terracotta animal figurines, zoomorphic vessels in the citadel fortification and in the intramural occupation (*ibid.* 101-106).

Zeyve Höyük (Porsuk)

Location: North of the Taurus Mountains near the town of Ulukışla adjacent to the Cilician Gates (Beyer 2010: 47).

Periods occupied: From the Late Bronze Age to the Late Roman period (Beyer *et al.* 2013: 201).

The site, which probably corresponds to the Assyrian city of Tunna, is situated nearby both the Cilician Gates and the silver and lead mines of the Taurus Mountains (Beyer 2010: 47). The strategic position of this mountainous passage as a crossroads on the way, through which the central Anatolian plateau connects to the Cillian plain, has always been worthy of remarks. According to Herodotus' description the "Royal Road" passed through the Cilician Gates.

Excavations revealed the existence of a compartmental fortification system that functioned throughout the Hittite period which was reconstructed during the Iron Age (*ibid.* 50-51).

A good illustration of archaeological finds is a stamped ceramic sherd found immediately under the Hellenistic strata at the northeast part of the mound (Beyer *et al.* 2006: 219). Two bearded men both wearing trousers and cowls (Bashlyk) and one of them hanging a dagger (Akinakes) on his left side are depicted face to face near the rim (Fig. 19).

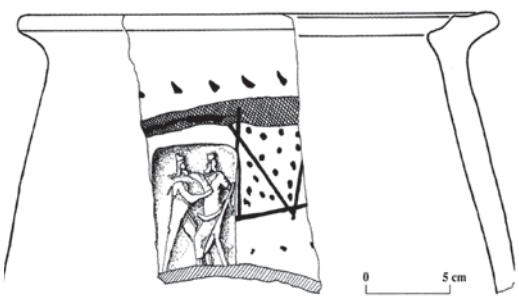

Fig. 19. Zeyve Höyük, drawing on pot sherd with painted and stamped decoration (Beyer *et al.* 2006: 228).

The iconography, fabric, and slip are concomitant with Achaemenid period examples (Casabonne 2007: 68). Although no other Achaemenid evidence has been found, it may well be accepted that the stamped ceramic sherd yields some information about royal communication. Accepting Zeyve Höyük to be a reference point at the entrance of the major corridor through the Taurus Mountain, the presence of a demolished royal station is feasible.

Tatarlı Höyük

Location: 85 km east of the provincial capital of Adana and about 10 km west of Toprakkale in the fertile plain of Ceyhan in Cilicia.

Periods occupied: From the Chalcolithic to the Byzantine periods (Girginer *et al*. 2014: 433-437).

The long duration of settlement attests to the strategic role of the site near the Belen Pass on the Amanus Mountain and in middle of trading routes. Based on finds uncovered, Tatarlı Höyük is speculated to be Luhuzatia or the city of seven spring waters, which was a Hittite sanctuary site in Kizzuwatna (Girginer and Cevher 2014: 38). An uncovered cobbled road, which the excavator defines at the Hittite caravan route, was in use all through the first millennium BC. The Iron Age architecture around the periphery of the road has been severely destroyed during the Hellenistic period.

A broken piece of a relief, which depicts Achaemenid guard's foot wearing a garment, and a fire altar can be seen south of the road (Girginer *et al*. 2014: 434-436). An Achaemenid period settlement was decisively attested after Achaemenid bowls were found at the third layer of the mound (Novak 2017: 175). Prior and recent surface surveys in the Cilician plain have determined the presence of a stable network of sites enjoying the Achaemenid bowls. Yeşil Höyük (Seton Williams 1954: 172), Ada Tepe 2 (*ibid.* 147), Sirkeli (*ibid.* 168), Avşar, Çatal Höyük, Mustafalı, Taşıl Höyük 1, and Taşıl Höyük 2 (Tülek and Öğüt 2013: 60, 66-67) are all situated along the west-east axis of the plain and may be coherent within a substantial network of roads, not least the "Royal Road".

Zincirli Höyük

Location: 100 km west of the Euphrates River. It is surrounded on the north by the Taurus Mountains, on the west by the Amanus range, and on the east by Kurt Dağ hills.

Periods occupied: From the Early Bronze to the Late Iron Age.

The site is located in a narrow rift valley, which varies 10 km to 20 km in width and forms a natural aisle. As this geographical area separates regions of north Syria from the Mediterranean Sea and the Cilician plain, it has been considered to be a crucial passageway of travel from the ancient times onwards. The coniferous trees in the Amanus Mountains near the site were the major source of timber and resin which were transported to Mesopotamia.

Archaeological findings, Assyrian texts, and local inscriptions indicate that the area surrounding Zincirli was a part of the Neo-Assyrian Empire throughout the 9th and 8th centuries BC. A royal citadel, an enormous gate, and two circular outer walls around

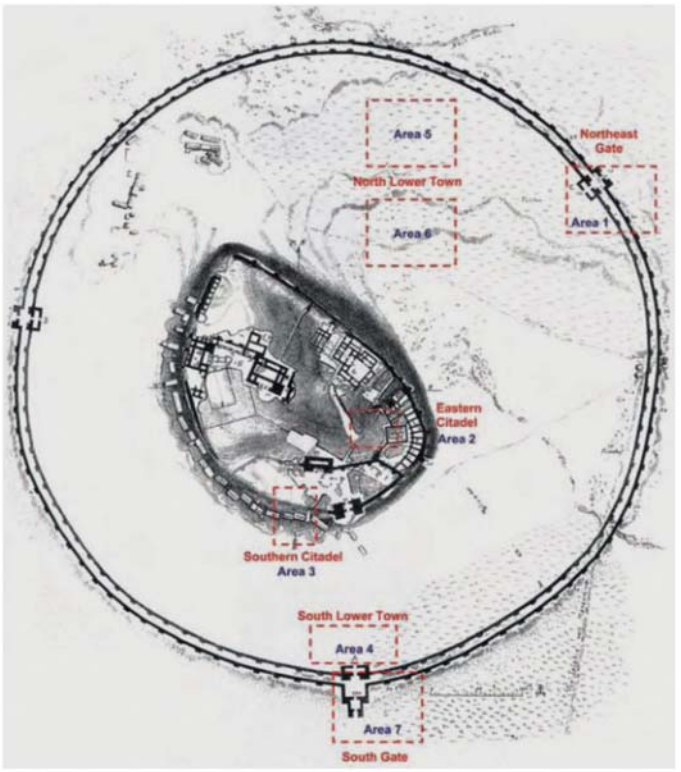

Fig. 20. Plan of Zincirli Höyük (Schloen and Fink 2009: 208).

the site (Fig. 20) from the late 9th century BC confirm the importance of the settlement along a route. The Achaemenid pottery and some artifacts found in the southern citadel and in the highest part of the eastern citadel, which may be a royal seat or a small fortress, reveal the Achaemenid occupation of the site (Schloen and Fink 2009: 204-212).

Dülük Baba Tepesi

Location: 10 km north of Gazientep, between the Euphrates River and the Taurus Mountains, and nearby the ancient city of Doliche (Blomer and Winter 2006: 185).

Periods occupied: From the Early First Millennium BC to the massive destruction in AD 253-236 by the Persian King Shapur I.

Outstanding finds such as small Syro-Phoenician grotesque figures, amulets, and pearl beads consecrations, Levantine scarabs, stone and glass cylinder or stamp seals with Neo-Babylonian and Achaemenid motifs, and fragments of black figure Attic ceramics reflect the cosmopolitan nature and importance of Dülük Baba Tepesi as a holy place with a multitude of cultural material. As the votive offerings fill the historical lacunae between the rituals of the Late Bronze and the Iron Ages gods Teshub-Hadad and that of god Jupiter Dolichenus in the Roman times, the site seems to be a communication gateway close to the intersections of important roads that connected Dülük Baba Tepesi with other destinations in Mesopotamia, Syria, Persia, Greece, and Rome (Blomer and Winter 2013: 365).

Fig. 21. Dülük Baba Tepesi, Achaemenid period bull head capital (Blomer and Winter 2006: 189).

The Late Iron Age level is marked by a stone capital in the shape of a bull's head (Fig. 21) similar to examples at Persepolis (Blomer and Winter 2006: 189) and a defensive wall section with the Achaemenid architectural technique in the east area of the hill (Blomer and Winter 2013: 362).Therefore, it can be suggested that high ranking persons or elites lived at Dülük BabaTepesi for administrative connectivity and social networking as they were hospitable to the practices of other people and their beliefs due to the policy of tolerance for cultural diversity.

Şaraga Höyük

Location: 10 km east of Karkamış, and 800m east of the village of Keleklioğlu in the province of Gaziantep on the west bank of Euphrates River (Sertok *et al.* 2004: 282).

Periods occupied: From the Late Uruk to the 13th century CE (Greaves and Helwing 2003: 85).

The late Hittite inscriptions found around the mound and the forged limestone molds and pottery kilns indicate the political and cultural importance of the place particularly in connection with Carchemish during the Iron Age. The pottery kiln from the Achaemenid period shows the continuity of pottery activities over centuries. The parts of a road from periods preceding the Achaemenid period continued to be used after being refurbished (Sertok *et al.* 2004: 282-284), and as a consequence, it may well be the extension of the "Royal Road" towards the Euphrates River. The 'Anahita' gypsum tablets, like the ones from Tilbeş Höyük (Briant and Boucharlat 2013: 304), appear to confirm the presence of an Achaemenid settlement at the final geographical point before crossing the river.

Mezraa Teleilat

Location: 5 km south of Birecik on the east bank of the Euphrates River, and west of the village of Mezra (Özdoğan *et al.* 2000: 166).

Periods occupied: From the Neolithic to 3000 BC, and during the Iron Age (Karul *et al.* 2001: 68).

An Assyrian governor's residence or an administrative building, which consists of a central courtyard surrounded by numerous magazines with storage jars (Karul *et al.* 2002: 160), affirms geographical significance of the site along the earlier Assyrian road to Carchemish. Subsequently, Neo-Babylonian tablets recovered from the floor of the structure attest the incorporation of the region to the Neo-Babylonian Kingdom after Nebuchadnezzar's assault in 605 BC (Özdoğan *et al.* 2004: 239).

Excavations revealed that Assyrian complex ruined by the Achaemenid invasion was occupied after being refurbished. Although the Achaemenid layer has not been well-preserved due to the effects of tillage, the remains of a building and a stone wall which display Achaemenid architecture techniques, together with figurines of clay horses and heads of riders ascribed to the Achaemenid period (Karul *et al.* 2001: 68) clearly attest the presence of an Achaemenid period settlement along an earlier well-trodden route.

Sur Tepe

Location: 4 km northwest of modern city of Birecik, and at the east bank of the Euphrates River near the Syrian border.

Periods occupied: Late Chalcolithic, Early Bronze Age, and Late Iron Age (Greaves and Helwing 2003: 84).

The Achaemenid pottery, royal style glass seals, a stone tablet inscribed in Aramaic from the time period between 5th and 4th centuries BC, large storage jars imprinted with the royal symbol, the 'Farvahar', and horse bones excavated from the Assyrian large-scale administrative structure, which corresponds with the monumental building at Mezraa Teleilat, witness the reoccupation of the site during the Achaemenid period (Fuensanta and Civelli 2010: 67-69). Sur Tepe may have come to be regarded as a settlement enjoying a food storage depot located on the "Royal Road" to supply the nearby Achaemenid garrison at Hacınebi Tepe (Stein 2014: 284), which is approximately 2 km away, through a secondary road.

Tilbeş Höyük

Location: 22 km north of the modern city of Birecik on the left bank of the Euphrates River's bend (Fuensanta and Mısır 1998: 228).

Periods occupied: From the late Chalcolithic to the Islamic period (Fuensanta *et al.* 1999: 156).

The location of the site overlooking the fertile lands near the Euphrates River is quite remarkable and the rich cultural sequence makes Tilbeş Höyük a likely important site. Considering the discovered materials dated to earlier periods, a high population density in is estimated for the region. In addition to this, ancient seals verify that Assyrian trade routes passed through Tilbeş Höyük (*ibid.* 161)

Achaemenid findings consist of storage silos, a fire altar, and 'Anahita' molded plaquettes, which are evidence for the use of the site both as a storage place and a sacred location. Furthermore, most of the grave goods show consistencies with the corresponding women and riders figurines found at Hacınebi Tepe, Mezraa Teleilat, and Deve Höyük (*ibid.* 160).

Küllük Tepe (site 5)

Location: 2 km of southwest of Kurban Höyük (now flooded) at the south bank of the Euphrates River. The catchment of Küllük Tepe is shared by the Yaslıca district 1 km southwest, both lie within the Urfa-Gaziantep plateau (Wilkinson 1990: 5-6, 151).

Periods occupied: First Millennium BC.

The site (now flooded) was situated upon a colluvium and abutted the slopes surrounding the tributaries of the Euphrates. Distinguished by the plentiful supply of limestone fragments representing eroded stone foundations, Küllük Tepe could have been originally a defensive site overlooking one of the narrowest spots of the Euphrates River Valley (*ibid.* 151-152).

The Achaemenid pottery assemblage suggests a mid-first millennium BC date for the site (*ibid.* 113). There are two ancient routes on the Urfa-Gaziantep plateau, one of which runs southeast towards the Harran plain and eventually into Mesopotamia, the second one leads southwest towards the Mediterranean coast. The latter is attested by a road that linked Birecik and Samsat via the Roman Severan fortlet at Eski Hisar and a watchtower at Uzunburç (*ibid.* 8). Since Küllük Tepe is situated in area with Roman roads (*ibid.* 6, 111), the routes may have been developed earlier through interplays between Samsat and the İncesu corridor during the Achaemenid period.

Lidar Höyük

Location: 5 km north of Samsat in the province of Adıyaman at the east bank of the Euphrates River.

Periods occupied: From the Late Bronze Age to the 13th century CE.

The Late Iron Age was identified through 9 layers of the now flooded site of Lidar Höyük. Level 6A was dated to 600-500 B.C. on the basis of the pottery assemblage and a large official structure (Muller 1999: 123). A cist burial similar to those found at Deve Höyük and Hacınebi Tepe, containing an oval bronze bathtub coffin and the skeleton of an adult male, has been discovered at level 6A. The grave goods consist of a gold signet ring, a bronze candlestick embellished with a statuette of a man wearing the Persian style clothing (conceivably a scepter depicting a Magus), pilgrim flasks, and perfume bottles. (Stein 2014: 279). On the opposite side, across the Euphrates River, Gritille, which is now flooded, was a significant way station along the Urfa-Malatya road during later periods (Redford 1986: 106-108). Therefore, in all probability, Lidar Höyük, which was a larger twin settlement at this crossing point, could have been situated along a road existing in earlier period.

Tille Höyük

Location: 50 km north of Samsat in the province of Adıyaman at the west bank of the Euphrates River (Blaylock 2009: 1).

Periods occupied: From the Late Bronze Age to the 13th century AD (*ibid.* 17).

The Iron Age period, which was composed of 10 layers, was a prolonged period of settlement occupation at Tille Höyük (now flooded). This was a significant settlement

Fig. 22. Tille Höyük, block plan of level 10 (Blaylock 2009: 182).

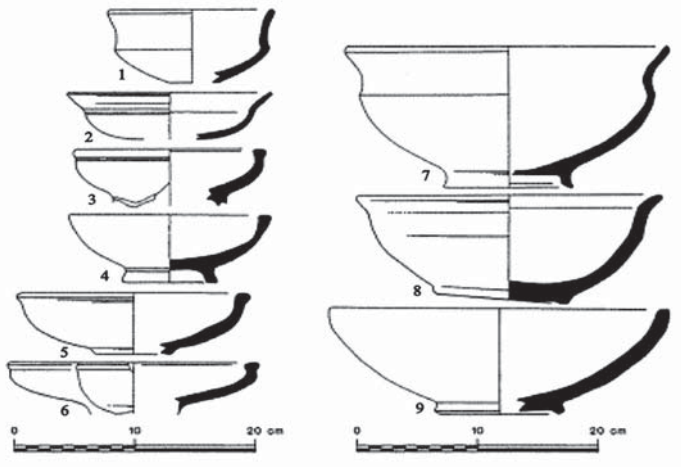

Fig. 23. Tille Höyük, drawings of Achaemenid bowls from level 10 (Blaylock 1999: 286).

during the Middle Iron Age when the Neo Hittite Kingdom of Kummuh was incorporated to the Neo-Assyrian Empire based on the discovered reliefs (Blaylock 1999: 264). The palatial construction and courtyard dating to the Neo-Assyrian period must have been rehabilitated at later times (Blaylock 2009: 23-35). The Achaemenid period settlement was identified on the basis of the presence of a structure, which finds close parallel in Persepolis (French 1986: 205) (Fig. 22), but also with the help of Achaemenid bowls and jars (Fig. 23) (Blaylock 1999: 271, 286).

Ziyaret Tepe

Location: 60 km east of Diyarbakir at the south bank of the Tigris River (Matney and Bauer 2000: 120).

Periods occupied: From the Late Bronze Age to the Islamic period (Matney *et al.* 2007: 301).

The mound is strategically situated in a fertile area that controls the east-west traffic on the Tigris River. Based on historical geography and details provided in Assyrian annals, Ziyaret Tepe was equated with Tushan, which was an Assyrian fortress that guarded the borderline of the empire near the Tigris River during the late second and first millennia BC (Matney and Bauer 2000: 121). The results of the excavations demonstrated the significance of the site all through Neo-Assyrian period. A remarkable administrative construction with wide-spreading courtyards and a gate, large pithoi, perhaps attesting to additional storage in the area, and contemporary tablets for administrative accounts, which mainly belonged to the late 7th century BC, have been revealed during the excavations.

The segments of cobbled roads have been identified at the lower town by geophysical investigation (Yıldırım and Gates 2007: 302). The third layer of the citadel mound (pit level) was defined as "Post-Assyrian" due to the existence of Triangle Ware pottery represented with handled jars, and painted or undecorated inverted rim bowls. The pottery dates to the same period with the drainage channels and a structure with two rooms containing tandoors (Matney *et al.* 2007: 43). As the excavations revealed that Ziyaret Tepe was one of the important Middle and Neo-Assyrian border military and administrative centers on the bank of the Tigris River between Diyarbakır and Batman, it is possible to claim that the route, which was extended there, was also being used during the "Post-Assyrian" period by the Achaemenids.

Hirbemerdon Tepe

Location: 40 km east of Bismil in the Ilısu Dam area at the west bank of the Tigris River.

Periods occupied: From the Late Chalcolithic to the Ottoman period (Laneri 2016: 11).

The late third millennium BC to the Middle Iron Age levels consisted of pottery examples corresponding to those known from northern Mesopotamia and the Khabur valley in Syria, showing signs of increasing trans-regional linkages between Mesopotamia and other political entities of the upper Tigris River region (Laneri 2004: 65-67). Assyrian annals have recorded that Shamshi-Adad's sons had traversed towards north to cross the Tur 'Abdin Mountains in the second millennium BC (Laneri *et al.* 2009: 215). Moreover, with the intention of oppressing local powers and creating a new political legacy, several Assyrian kings launched campaigns towards the land of Nairi near the upper Tigris River all through the first millennium BC (*ibid.* 216).

The fifth layer, which was occupied during 600-300 BC, has been ascribed to the Late Iron Age. This phase follows the succeeding Late Assyrian level and precedes the Hellenistic layers. The archaeological remains uncovered from numerous pits consist of sherds belonging to Triangle Ware pottery in the forms of storage jars, and many examples of craniate bowls similar to those found at Ziyaret Tepe were found (Laneri 2016: 103-104). The excavator calls this level "Post-Assyrian" and places it under the period of Achaemenid hegemony (*ibid.* 105). Therefore, Hirbemerdon Tepe can be assumed to be the next sequential transit settlement on the route during the Achaemenid period along the west bank of the Tigris River.

Results and discussion

Utilizing the map of Turkey and online database of remote sensing data, an epitome of geographical characteristics of 26 successive Achaemenid settlements and approximate distances that were created is given in table 1. The locations of the successive settlements currently recorded within the study as fortified or residencies are plotted on the map to predict the course of the Achaemenid Royal Road (Fig. 3). The fortified nature of recorded long-life settlements invigorates their strategic roles along a linear sequential way.

Analysis through study reveals two settlements pertaining to the vicinity of tumuli, Lale Tepe and the tumuli at Uşak-Güre, which may be the residences of Achaemenid period high rank occupants. Moreover, the settlement associated with Gökçeler tumulus might have served as the domicile of the settlor for the isolated watchtower of Şahankaya over the mountainous way.

Among evidence supporting the existence of a thoroughfare are six discernible sections of cobbled road discovered at Daskylion, Gordion, Büklükale, Oluz Höyük, Tatarlı Höyük, and Ziyaret Tepe, which we identified as possible parts of the "Royal Road". Whereas cobbled paths would seem to lead down inside the settlements, unpaved sections of the "Royal Road" move along the intervals.

The only single period settlement, Tilkigediği Tepe, accompanied by Çeşka Kale and Sümerin Sivri Hisar represent a regional integrated system of defense along the "Royal Road". Fortified sites revealing the Achaemenid presence are Daskylion, Sardis, Seyitömer Höyük, Gordion, Uşaklı Höyük, Tilkigediği Tepe, Çadır Höyük, Zeyve Höyük, Tatarlı Höyük, Zincirli Höyük, Dülük Baba Tepesi, Ziyaret Tepe, and Küllük Tepe.

A more detailed description in this paper represents that the "Royal Road" presumably started from Daskylion, which was a pivotal administrative terminus at the northwest corner of Anatolia. The road continues towards Şahankaya and Lale Tepe in the Aegean region, and passes Sardis, which was the satrapal center of Lydia. Then it turns its course to the northeast towards the tumuli at Uşak-Güre and Seyitomer Höyük, in which the presence of a royal station is assumed.

However, addressing many Achaemenid material remains from Gordion, the satrapal center of Phrygia, the "Royal Road" must have continued towards Büklükale, where the military outpost mentioned by Herodotus is proposed to have existed at a location near the Halys River crossing. The road then bends northwards towards Oluz Höyük, which is equated with Critalla, and provides communication with the most distant regions. Stretches of the "Royal Road" across the Uşaklı Höyük, Çadır Höyük, Kınık Höyük, Zeyve Höyük, Tatarlı Höyük, Zincirli Höyük, and Dülük Baba Tepesi seem to be coincident with major earlier routes. The road reaches Şaraga Höyük, which was an Achaemenid settlement at the last point before crossing the Euphrates River, after it proceeds on a west-east axis through the Cilician plain, intervening sites such as Yeşil Höyük, Ada Tepe 2, and Sirkeli.

From Şaraga Höyük onwards, the course of the "Royal Road", more or less follows the alignment of the Euphrates River, passing through Mezraa Teleilat, Sur Tepe, Tilbeş Höyük, Küllük Tepe, Lidar Höyük, and Tille Höyük. It must have been practicable in the Achaemenid period to stay on the eastern side of the Euphrates to avoid excess crossing

but recent reservoirs have changed the face of the region which makes it harder to make an assumption. Thence, the road connects the settlements of Ziyaret Tepe and Hirbemerdon Tepe at the south bank of the upper Tigris River, which were border defensive sites during the preceding Assyrian period. It could be reasonably assumed that for the rest of the route, the Achaemenid Royal Road continued along the west bank of the Tigris River, following the line of the earlier Assyrian roads going into Mesopotamia.

It seems that the proposed direction of the road staring from the Aegean region and going east to the central plateau, the Black Sea basin, the Mediterranean region, and southeastern Anatolia reinforces the idea of the existence of a second alternative route for the northern route hypothesis. The result of the calculations suggests that the journey from Daskylion to Hirbemerdon has a length of some 2,451 kilometers and shows that the road may not be the shortest or the easiest path as what frequently invoked in history, but cover progressively a more extensive area, providing easier access. However, accurate historical comparison of distances not only demands clear implication of 'parasang', which would require considering an additional distance between Daskylion and Sardis, but is also beyond purview of this article.

The Achaemenid Royal Road facilitated several crucial aspects of Achaemenid imperial governance, including communication, trade, and military movement. Archaeological materials and certain documents like the Persepolis Fortification tablets sometimes contain information about these functions. However, although this study mainly focuses on the course of the "Royal Road", it should be added that archaeological findings from a few settlements including Daskylion, Gordion, and Çadır Höyük provide evidence of trade, whereas some sites like Daskylion, Şahankaya, Sardis, Seyitömer Höyük, Gordion, Zeyve Höyük, Dülük Baba Tepesi, Sur Tepe, and Lidar Höyük indicate that the function of the "Royal Road" were of the widest in administrative activities. Sites including Daskylion, Şahankaya, Gordion, Büklükale, Oluz Höyük, and Tilkigediği Tepe reveal that the function of the road was wide also in martial matters.

Fig. 24. Map of the proposed course of the Achaemenid Royal Road (authors).

Table 1. Geographical characteristics of the settlements (authors).

(A: Starting point, B: Destination)	Distance (km)	Geographical Coordinates (UTM)		Region	Province
A: Daskylion	186	40.135116 N	28.065633 E	Marmara	Bursa
B: Şahankaya					
A: Şahankaya	59	38.855437 N	28.087024 E	Aegean	Manisa
B: Lale Tepe					
A: Lale Tepe	11	38.516085 N	27.937738 E	Aegean	Manisa
B: Sardis					
A: Sardis	109	38.493592 N	28.044204 E	Aegean	Manisa
B: Uşak-Güre tumuli					
A: Uşak-Güre tumuli	152	38.649374 N	29.153080 E	Central Anatolia	Uşak
B: Seyitomer Höyük					
A: Seyitomer Höyük	220	39.617720 N	29.884972E	Central Anatolia	Kutahya
B: Gordion					
A: Gordion	148	39.653575 N	31.995578 E	Central Anatolia	Ankara
B: Büklükale					
A: Büklükale	251	39.587705 E	33.428178 E	Central Anatolia	Kırıkkale
B: Oluz Höyük					
A: Oluz Höyük	164	40.556092 N	35.598585 E	Black Sea	Amasya
B: Uşaklı Höyük (via Çeşka Kale)					
A: Uşaklı Höyük	18	39.800885 N	35.027722 E	Central Anatolia	Yozgat
B: Tilkigediği Tepe					
A: Tilkigediği Tepe	10	39.762315 N	35.108168 E	Central Anatolia	Yozgat
B: Çadır Höyük					
A: Çadır Höyük	230	39.690903 N	35.141081 E	Central Anatolia	Yozgat
B: Kinik Höyük (via Sümerin Sivri Hisar, Göz Baba)					
A: Kınık Höyük	68	37.997944 N	34.371146 E	Central Anatolia	Niğde
B: Zeyve Höyük					
A: Zeyve Höyük	200	37.533469 N	34.565466 E	Mediterranean	Niğde
B: Tatarlı Höyük (via Yeşil Höyük, Sirkeli, Ada Tepe 2)					
A: Tatarlı Höyük	90	37.124368 N	36.052726 E	Mediterranean	Adana
B: Zincirli Höyük					
A: Zincirli Höyük	73	37.103336 N	36.682377 E	Southeastern Anatolia	Gaziantep
B: Dülük Baba Tepesi					
A: Dülük Baba Tepesi	79	37.162577 N	37.357958 E	Southeastern Anatolia	Gaziantep
B: Şaraga Höyük					

(A: Starting point, B: Destination)	Distance (km)	Geographical Coordinates (UTM)		Region	Province
A: Şaraga Höyük	12	36.919509 N	38.001012 E	Southeastern Anatolia	Gaziantep
B: Mezraa Teleilat					
A: Mezraa Teleilat	11	36.984404 N	37.982747 E	Southeastern Anatolia	Şanlıurfa
B: Sur Tepe					
A: Sur Tepe	10	37.055323 N	37.948186 E	Southeastern Anatolia	Şanlıurfa
B: Tilbeş Höyük					
A: Tilbeş Höyük	68	37.100458 N	37.895209 E	Southeastern Anatolia	Şanlıurfa
B: Küllük Tepe					
A: Küllük Tepe	23	37.466363 N	38.411831 E	Southeastern Anatolia	Şanlıurfa
B: Lidar Höyük					
A: Lidar Höyük	54	37.591030 N	38.566616 E	Southeastern Anatolia	Adıyaman
B: Tille Höyük					
A: Tille Höyük	179	37.719324 N	38.921269 E	Southeastern Anatolia	Adıyaman
B: Ziyaret Tepe					
A: Ziyaret Tepe	26	37.801527 N	40.794194 E	Southeastern Anatolia	Diyarbakır
B: Hirbemerdon Tepe		37.773988 N	41.015658 E	Southeastern Anatolia	Diyarbakır
	2451				

Conclusions

The current study is concerned with the delineation of the course of the relevant part of the Achaemenid Royal Road located in Anatolia. Exploration of ancient roads, if sometimes perplexing, provides an integrated perspective for spatial patterns of movement which could emerge consequential contacts amongst people. The Achaemenid Royal Road, which is described as a major line of communication between crucial cores, could conceivably pass through those places which had been occupied earlier, and later by the Achaemenid occupants during 550-330 B.C. In Anatolia, most of these sites experienced high degrees of settlement continuity; hence it is feasible to assume that also the path of the main road connecting them may have remained relatively stable. Therefore, in the light of the Achaemenid archaeological evidence, historical texts, and geographical constraints, invaluable information can be gleaned to build a linear sequential model of settlements.

The archaeological evidence would seem to suggest that the presence of Achaemenid bowls, Achaemenid style seals and impressions, architectural constructions and small monuments that are attributed to Achaemenids can be used to identify Achaemenid presence at fortified settlements or at peripheral zones around tumuli. On the basis of our present work, it is clear that archaeological sites include one stronghold, 2 tumuli, and 23 settlements, which in 6 of them sections of the road were discovered.

The Achaemenid Royal Road, which was the main artery of a network that traversed along the mentioned sites, permeated the empire not only to serve the royal dispatches and used for the movement of the royal troops, but also for trade. As the research has demonstrated the Achaemenid Royal Road, which at one time was one of the longest roads connecting the Achaemenid territories, overlaid former roads such as the ones built by the Assyrians and Hittites in Anatolia and inspired later Roman roads.

To conclude, as the proposed course of the "Royal Road" relatively corresponds to the "northern hypothesis", it commences from the center of the north-westernmost satrapy in Anatolia, namely Daskylion.

The importance of this study is that the delineation of the proposed course for the "Royal Road" has a focus of arrangement based on the locations of Achaemenid settlements in Anatolia for the first time. Moreover, Daskylion has been introduced as a pivotal terminal along the Achaemenid Royal Road. Admittedly, further excavations will bring new evidence; but the locations of a succession of excavated settlements make it feasible to reassess the picture of the course of this thoroughfare. However, delineation of the extension of the "Royal Road", which is not discussed in this paper, should also be proffered for further studies.

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RECONSTRUCTING FUNERARY SEQUENCES OF KURGANS IN THE SOUTHERN CAUCASUS
The first two seasons of the Azerbaijani-Italian Ganja Region Kurgan Archaeological Region Project (GaRKAP) in western Azerbaijan

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Abstract

The GaRKAP (i.e., Ganja Region Kurgan Archaeological Project) is a joint Azerbaijani-Italian project in western Azerbaijan that investigates the spread of the tradition of burying the dead in funerary chambers covered with circular tumuli (i.e., kurgans) in the southern Caucasus during a period ranging from the fourth to the first millennia BCE.

This paper will present the results of the first two seasons (2018 and 2019) of the archaeological work performed in the two regions investigated by the project that are: the area directly north of the modern city of Ganja (i.e., the northern section of the Heydar Aliyev Park), where numerous kurgans of the Late Bronze/Early Iron Age are located; and, the steppe region of Şadılı-Uzun Rama along the valley of the Kurekçay, a creek affluent of the Kura river in the Goranboy district, where the preliminary reconnaissance survey has identified ca. 205 kurgans dating back to the Kura-Araxes period as well as to a Late Bronze/Early Iron Age archaeological phase.

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INTRODUCTION
(Nicola Laneri and Bakhtiyar Jalilov)

A kurgan is a large funerary mound constructed in order to create a clear and visible element within the natural landscape in which the community of the living can connect with the histories of their dead ancestors. This funerary tradition originated in the Pontic area during the fifth millennium BCE and then spread from the northern into the southern Caucasus (Reinhold 2019) slowly becoming a typical landmark of the ancient communities inhabiting this region at least until the first millennium BCE when even the Greek historian Herodutus in his famous work titled *Historiae* describes the incredible tumuli of the Scythians (Laneri, Müller Celka and Palumbi 2019).

Thus, in order to further understand the role played by kurgans in framing the funerary customs of southern Caucasian communities, the joint Azerbaijani-Italian project Ganja Region Kurgan Archaeological Project (GaRKAP) started in 2018 with the objective of continuing and supporting the archaeological work performed by the archaeologists of the Azerbaijani National Academy of Science in the region of Goranboy and the area immediately north to the modern city of Ganja (Fig. 1). The project aims to reconstruct the funerary sequence that developed in the creation, use and memorialization of ancient kurgans through a detailed excavation of a few of these tumuli as well as recording and publishing all the other kurgans previously excavated by the Azerbaijani co-director of GaRKAP, Bakhtiyar Jalilov. In particular, the project has been focused first, on investigating the funerary sequence of kurgans located in the Şadılı-Uzun Rama steppe and dated to the so-called Kura-Araxes period (ca. 3500-3000 BCE), and second, the kurgans of Ganja city that are instead dated to the Late Bronze/Early Iron Age period (ca. 14th-10th century BCE),[1] and finally, is working on reconstructing the ancestral landscape of the communities inhabiting this region between the fourth and the first millennia BCE, a period during which the steppes of western Azerbaijan were traversed by movements of nomadic and transhumant people coming from the mountains of the southern Caucasus and moving towards the valleys of the river Kura and its tributaries.

Within this landscape, Kurgan 8 in the Şadılı-Uzun Rama plateau represents an extraordinary example of a late fourth millennium BCE funerary tumulus constructed following the typical cultural milieu of the Kura-Araxes period in western Azerbaijan in which the mound of stones and dirt covers a large funerary chamber with a narrow *dromos* entrance sloping down in order to allow the deposition of the dead members of the involved community within the chamber (Laneri *et al.* 2019). The excavation of the funerary chamber of Kurgan 8 has also confirmed the data available from the other Kura-Araxes kurgans excavated in western Azerbaijan (Mentesh Tepe and Şadılı-Uzun Rama region, Jalilov 2018; Poulmarc'h, Pecqueur and Jalilov 2014) in which the kurgan was used for a multiple deposition of the members of the communities accompanied by a very poor set

[1] Four organic samples of seeds (found in a vessel), charcoals, and human bones collected within the funerary chamber and analyzed by the CEDAD laboratory in Lecce have given us a preliminary result that establish solid calibrated dates within a range 3660-3500 BC (Cal. 2s). Such dates would define Kurgan 8 as the most ancient kurgan of western Azerbaijan dated to the Kura-Araxes period. Further research will be published in the future with scientists from the CEDAD.

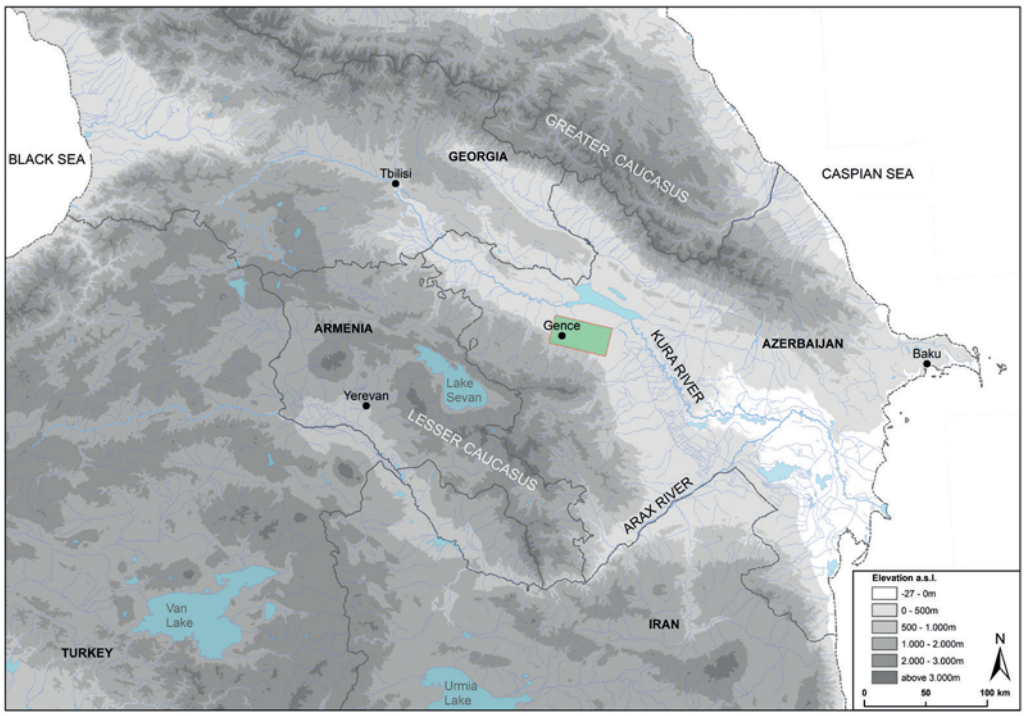

Fig. 1. Map of Azerbaijan highlighting the areas investigated by the GaRKAP project (thanks to Andrea Ricci).

of funerary goods represented by vessels – i.e., small globular jars with a high neck and a slightly everted rim, and large hemispherical bowls both belonging to the Monochrome Burnished Ware pottery assemblage that is typical of a Kura-Araxes phase I cultural horizon (Palumbi and Chatagnier 2014: Fig. 1), a few bone spindle whorls, limestone beads that were originally part of necklaces, flint arrowheads and selected animal remains (i.e., horns and *bucrania*) recalling Mentesh Tepe and other sites in western Azerbaijan. Considering the geographical context usually associated with metalworking starting already from the fourth millennium BCE, it is quite striking to notice the lack of presence of metal objects among the funerary goods of the kurgans of western Azerbaijan, but this might be related to an absence of social differentiation of the members of the communities of the Kura-Araxes I period, and, thus, a consequential lack of variability for the funerary goods deposited in the funerary chamber.

Another typical aspect of the kurgans of the Kura-Araxes period of western Azerbaijan is the partial burning of the funerary chamber that has been considered as part of a unique termination ritual within the funerary sequence of the use of the kurgans of this specific period (Qaziyev 1969; Jafarov 2000; Jalilov 2018; Poulmarc'h, Pecqueur and Jalilov 2014). In the case of Kurgan 8, this act is clearly recognizable in the western section of the funerary chamber as well as in the *dromos* that were deliberately set on fire (see below), but no signs of human cremation were recognizable during the excavation. Finally, the chamber was covered with a thick deposit of dirt and stones creating a burial mound that

mimics the natural environment through a metaphysical connection between the 'below' and the 'above', thereby transforming the mound into an *axis mundi* that grounded the nomadic Kura-Araxes community transiting this region within the high plateau of Şadılı-Uzun Rama. Of extraordinary importance is the fact that later, during the third millennium BCE, the burial mound was reused through the incorporation of two intrusive graves marked by the presence of one individual each, as well as the construction of a larger burial mound incorporating the earlier tumulus of the Kura-Araxes period. In particular, the ceramic assemblage found within the two graves (e.g., jars of the Black Burnished Ware assemblage) shows clear similarities with a Post-Kura-Araxes phase, and, thus, belongs to a final Early Bronze Age period cultural horizon (ca. 2500-2000 BCE, Passerini, Rova and Boaretto 2018: table 9). Of considerable interest in both cases is the presence of single individuals rather than the multiple deposition of the previous phase together with bronze objects as part of the funerary goods.

Another objective of GaRKAP was to investigate the area immediately north of the modern city of Ganja that is instead characterized by the presence of small kurgans dated to the Late Bronze/Early Iron Age periods. In this case the funerary mounds exhibit the presence of single individuals accompanied by funerary goods (e.g., relics of grooved pottery assemblage) that are typical of this specific cultural horizon. However, most of the funerary goods have been repeatedly looted by illegal excavators. To deal with this issue the project is collaborating with the local authorities to develop the Kurgan Archaeological Park (KAP) in order to mitigate the phenomenon of looting and raise social and cultural awareness about the importance of the historic and cultural heritage represented by the myriad kurgans dotting western Azerbaijan.

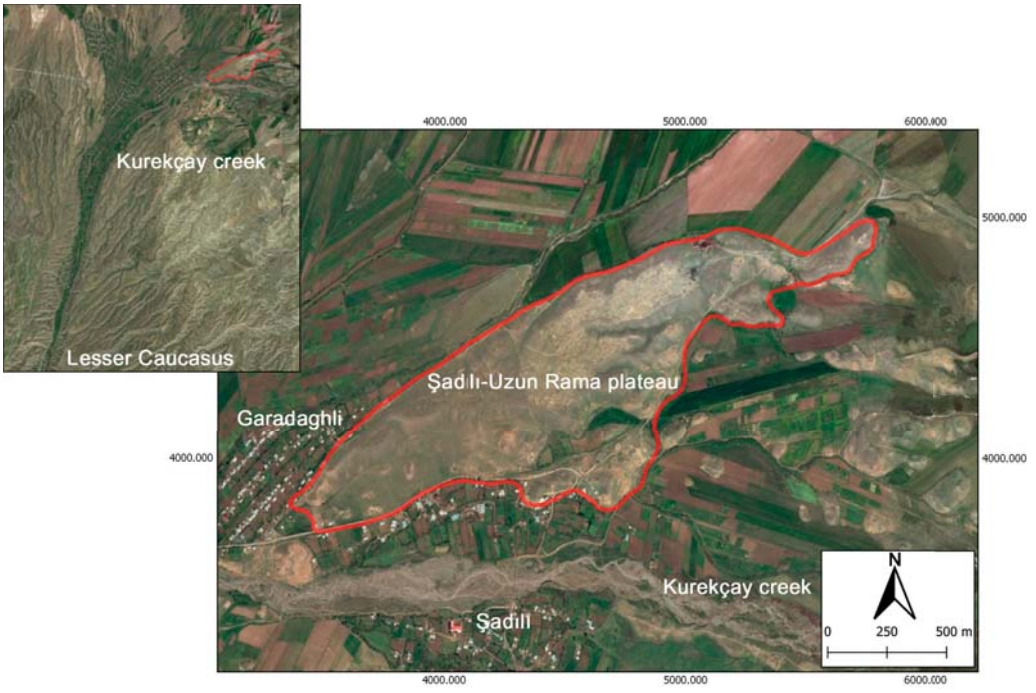

Fig. 2. Satellite photo of the Şadılı-Uzun Rama plateau (elaboration of USGS LandLook Viewer by Chiara Pappalardo).

An ancestral landscape: the kurgans of the Şadili-Uzun Rama Plateau
(Chiara Pappalardo)

The geographical setting of the Şadılı-Uzun Rama plateau has already been described together with the preliminary results of an archaeological survey conducted in summer 2018 (Ricci and Kniesel in Laneri *et al.* 2019). Here we will briefly recall the main outcomes of that study and then introduce an in progress theoretical-methodological approach to the understanding of the Şadılı-Uzun Rama landscape as an arena of the entangled interaction between nomadic communities and their natural environment.

The steppe-like plateau is characterized by a distinctive whitish coloration from the large quantity of calcareous material and extends for 2.6 km directly north of the Kurekçay creek, following a general SW-NE orientation. As a result of its light-colored, almost bare top, and an elevation range of 5-10 m above the surroundings, it stands out clearly from the adjacent fields (Fig. 2). Although the modern extractive activity of limestone at the site had already damaged the area (Jalilov 2012), some of the artificial tumuli are still visible and the 2018 survey allowed the identification and mapping of 205 kurgans (Ricci and Kniesel in Laneri *et al.* 2019) dating to the Kura-Araxes and Late Bronze/Early Iron Age periods (Jalilov 2010; 2011; 2012; 2014; 2018).[2]

Despite the intensive funerary function that has been documented, spanning more than two millennia, no settlement activity is visible in the archaeological record available from the plateau, and, additionally, the settlements dating to the Kura-Araxes period are rarely attested in Azerbaijan (Lyonnet 2014; Palumbi 2016; Laneri, Müller Celka and Palumbi 2019: X). That stands at odds with the other Kura-Araxes practice of burying the dead within settlements, that becomes less frequent than during the Chalcolithic (Poulmarc'h 2014), or in well-defined nearby cemeteries (Sagona 2004; Poulmarc'h 2014; Poulmarc'h, Pecquer and Jalilov 2014; Palumbi 2016), as it has been recently observed, for example, for the spatial organization of Early Bronze Age sites in the Shida Kartli region of the Georgian southern Caucasus, where settlements are separated from contemporary pit tomb cemeteries by rivers (Rova 2018). This consideration that has supported the hypothesis of nomadic communities exploiting the region, now leads us to question what might have been the reason, in the absence of documented permanent settlements, behind the deliberate choice of this specific area for the formal disposal of the dead, and in particular for the use of kurgans, whose contour is very distinctive, as the locale for their collective burial.

Economic reasons have been put forward to explain the dislocation of cemeteries at least since the controversial "hypothesis 8" was proposed by Arthur Saxe (Saxe 1970: 119), who claimed, in his pragmatic analysis of social behaviors related to funerary rituals, that the

[2] It must be noticed here that, contrary to previous assumptions, the systematic documentation through photogrammetry of the different levels of Kurgan 8 during the archaeological campaigns of 2018 and 2019 has shown that, as will be discussed in the next paragraph, the possibility of a stratigraphy of monumental tombs at the site during the documented practice of excavating intrusive burials cannot be ruled out (see below).

areas for the formal deposition of the deceased were strategically located to mark the appropriation of the resources of a limited territory by a given lineage, whose exclusive access was legitimized by mean of the ancestors. As pointed out by succeeding critical reviews (e.g., Goldstein 1981; Hodder 1984; Morris 1991; Pearson 1999), this proposition presents a series of problems which can be summarized as follows: 1) it assumes, as was common to the deterministic and generalizing approach of those years, that every culture ritualizes the social aspects related to death with a systematic link between economic subsistence and ideology, thus neglecting the symbolic dimension of rituals and the associated material culture; 2) it implies the effective role of cemeteries in transmitting land property, a function that was not concrete, but could have only existed in the cognitive dimension of a given community, and was thus, contrary to what has been considered above, culturally constructed.

Although the economic significance of places dedicated to funerary depositions has been recently stressed, especially with regard to the "ancestral pasture" of semi-nomadic societies (e.g., Porter 2012; Wilkinson *et al.* 2014: 83), it follows that the analysis of their meaning requires first to approach the complex field of cognitive archaeology, and second to redefine the meaning of the term "ancestor" itself. Since genetic evidence is missing and the concrete role of tombs in legitimizing land property cannot be proved, in this contribution the word "ancestor" is used in its wider meaning to denote former inhabitants who have contributed to shaping their natural landscape (Ingold 2000). Nomadic groups, in particular, shape their landscapes as they move seasonally across them to procure their daily livelihood, and natural landscapes, in turn, form their cognitive world through sensory experience. This mutual relationship is materialized in the construction of funerary spaces that embed ancestral memory within natural visualscapes through the construction of permanent houses for the dead, thus forming what we call here the "ancestral landscapes".

In order to explore beyond the sole socio-economic motivation, future studies of the Şadılı-Uzun Rama ancestral landscape will assess the potential of visual and spatial analyses involving photogrammetry, 3D GIS and viewshed analysis as tools to reconstruct the landscape perceived by prehistoric communities within the frame of this phenomenological-cognitive approach. In an attempt to look through the eyes of ancient southern Caucasian nomads, the approach will thus seek the reasons behind the location and configuration of the necropolis. The theoretical assumption that the research will be able to test is that the environment is not a fixed background of the funerary performance, but that it instead contributes to actively molding the collective imagination, mythology and the perception of the communal world itself. According to a preliminary hypothesis, ancestral landscapes, and the Şadılı-Uzun Rama plateau in particular, lend themselves to the analysis of a series of key attributes. The first one, i.e. emphasis on visibility of funerary sites, has been regarded as a key point that distinguishes periphery systems from settled areas in different cultures (Rosen 2017: 117). Visibility from a distance could be due to the function of these places as aggregation points for the kindred groups and it is the easiest aspect to verify unequivocally through modern techniques of spatial analysis. In the case of Şadılı-Uzun Rama, both the natural setting of the plateau and the tumuli of mixed white limestone and pebbles with a height of ca. 1-1,5 m delineated by outer stone circles, clearly indicate that the underlying presence of burials had to leave a physical mark on the land-

scape. The importance of visibility seems to find further confirmation in the larger concentration of kurgans at the higher, southwestern corner of the plateau (Ricci and Kniesel in Laneri *et al.* 2019). As aggregation points the location of these funerary spaces had to assure the sustenance of the communities during their permanence, and thus they are strategically situated near water supplies, as seen in the case of Şadılı-Uzun Rama, or other vital resources. Considering the broader landscape of the plateau under study, it is worth noting that it is located at the northern limit of a water stream descending from the mountains of the Lesser Caucasus east of Lake Sevan, a trend that can be observed for the valley south of Ganja city as well, thus suggesting that these water streams could have been followed by transhumant groups during seasonal movements along a SW-NE axis. The importance of the place for the sustenance of the community could have contributed to the definition of its centrality also within the symbolic, or even metaphysical and cosmological world of the group, as the cultural value of kurgans in defining and strengthening communal identities has recently been stressed (Smith 2019), and the prestige acquired by virtue of the previous points might have determined an extraordinarily prolonged continuity of use of the funerary space, which is easy detectable at Şadılı-Uzun Rama. The excavation of Kurgan 8 in the summers of 2018 and 2019 has in fact shown that not only the plateau has been exploited with a funerary function over several millennia, but also that the very same area of the tumuli could be reused and even enlarged to include new tombs (see below). Through the establishment of ancestral tombs, the nomadic community finally impressed a tangible sign of its presence on the landscape (Erdal *et al.* 2019; Reinhold 2019), a death-related behavior that will become especially evident in the southern Caucasus starting from the mid-third millennium BCE (Sagona 2004). In this operation a principle of *mimesis*, according to which the artificial constructions do not dramatically change the 'sacred' nature of the place but harmonically adapt to it, seems to have been adopted (Laneri, Müller Celka and Palumbi 2019: X), as observed in the shape of the stone tumuli that reproduce the hilly surface of the Şadılı-Uzun Rama surroundings.

Unveiling the funerary sequence of a Kura-Araxes kurgan: The case of Kurgan 8 in the Şadili-Uzun Rama plateau

(Bakhtiyar Jalilov, Stefano Valentini, Lorenzo Crescioli, Chiara Pappalardo, Sergio Russo, Nicola Laneri)

During the two seasons of excavations in the Şadılı-Uzun Rama plateau in the Goranboy province, the archaeologists have focused on excavating a kurgan (i.e., Kurgan 8) located along the northeastern ridge of the plateau. This decision was based on the morphological similarities Kurgan 8 had with other kurgans dated to the Kura-Araxes I period (ca. 3500-3000 BCE) previously excavated by Azerbaijani archaeologists in the Goranboy province (Jalilov 2012, 2014, 2018). Thus, after a thorough cleaning and excavation of the stone and dirt tumulus covering the funerary chamber, it was discovered that the kurgan had a series of use phases that also included a later reuse (probably during the second half of the third millennium BCE, i.e., 'Post Kura-Araxes' or 'Early Kurgans' chronological phase (Passerini, Rova and Boaretto 2018: table 3), during which two intrusive burials

were excavated and an additional burial mound was added along the northwestern side of the original kurgan (Figs. 3, 4). More specifically, the original core of the kurgan, which can be dated to Kura-Araxes phase I (Palumbi and Chataigner 2014: 248) based on the ceramics found as funerary goods, was consisted of a large funerary chamber (ca. 5 m wide and 7 m long) excavated into the virgin soil following an E-W orientation, circled by a line of large-sized stones positioned to emphasize the chamber and the entrance *dromos* (ca. 1 m wide and 2,2 m long) (Figs. 5, 6). Based on the data collected during these two years of work, the archaeologists have also been able to reconstruct the sequence of events that occurred at Kurgan 8 which can be attributed to the following phases (starting from the most ancient):

Level 1	Phase 11	Construction of the chamber, the *dromos*, and the first tumulus.
Level 2	Phase 10	Use of the funerary chamber.
Level 3	Phase 9	Collapse of the southern wall with part of the roof.
Level 4	Phase 8	Rearrangement of the chamber and the floor.
	Phase 7	Continual use of the funerary chamber.
Level 5	Phase 6	Construction of the wooden structure in the southwestern corner.
	Phase 5	Deposition in the *dromos*. Ritual fire in the chamber and *dromos*.
	Phase 4	Final filling of the chamber and *dromos*. Rearrangement of the first tumulus. Ritual Pit. Abandonment of the first tumulus.
Level 6	Phase 3	Graves Gr I-I and Gr I-II.
	Phase 2	Monumentalization of the kurgan with the second tumulus.
	Phase 1	Looting of Gr I-I and Gr I-II and abandonment.
Level 7	Phase 0	Modern scattered temporary occupation.

Level 1: Construction of the chamber, the *dromos* and the original tumulus

In an initial phase, the virgin soil of the plateau was cut for a depth of ca. 1,65 m to create the pits for the funerary chamber and the *dromos*; the limits of these pits were filled with walls, ca. 30-35 cm thick and built using rectangular mudbricks that exceeded the edge of the pits by ca. 20 to 30 cm in height (Fig. 5).[3] The chamber floor was probably formed by reusing small gravel and white lime material from the Şadılı-Uzun Rama plateau, while no coherent floor was detected on the sloping *dromos*, whose opening was oriented towards the East, following a commonly attested practice of western Azerbaijan kurgans (Huseynov 2019). The frame of the chamber roof was made by long wooden beams, which were placed at an interval of approximately 10-20 cm and perpendicular to the entranceway. It is likely that a wooden framework of this nature was covered with wattle and daub, although no trace of this last layer has survived the ritual fire. On top of the chamber and the *dromos*, a first tumulus with a diameter of around 12 m was erected reusing some of the white limestone pieces and pebbles collected during the excavation of

[3] In western Azerbaijan, there are examples of kurgans with funerary chambers built using timber and stones together with mudbricks (Jafarov 1982, 1985; Kesamanli, Jafarov and Babaev 1980).

Fig. 3. Photogrammetry of Kurgan 8 showing the first and the second tumulus in relation to the main funerary chamber and the later earthen pit tombs.

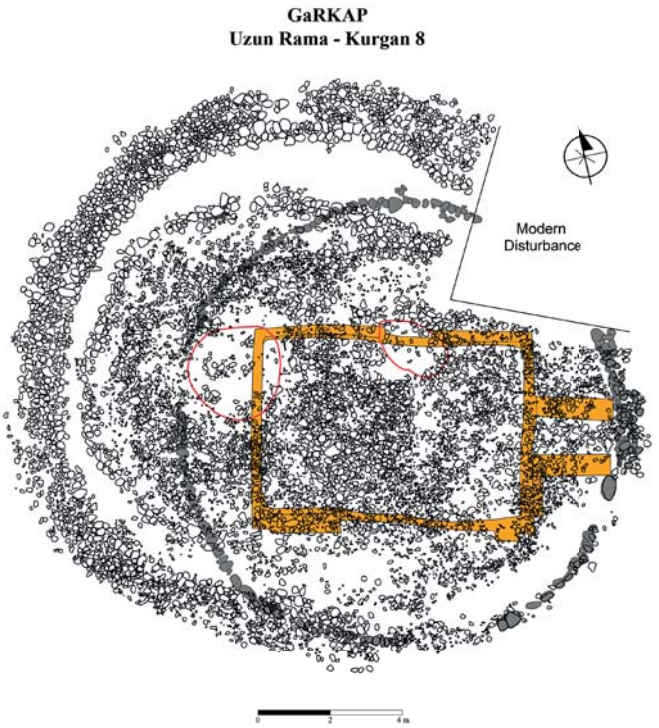

Fig. 4. Plan of Kurgan 8 based on photogrammetry showing the different phases of use.

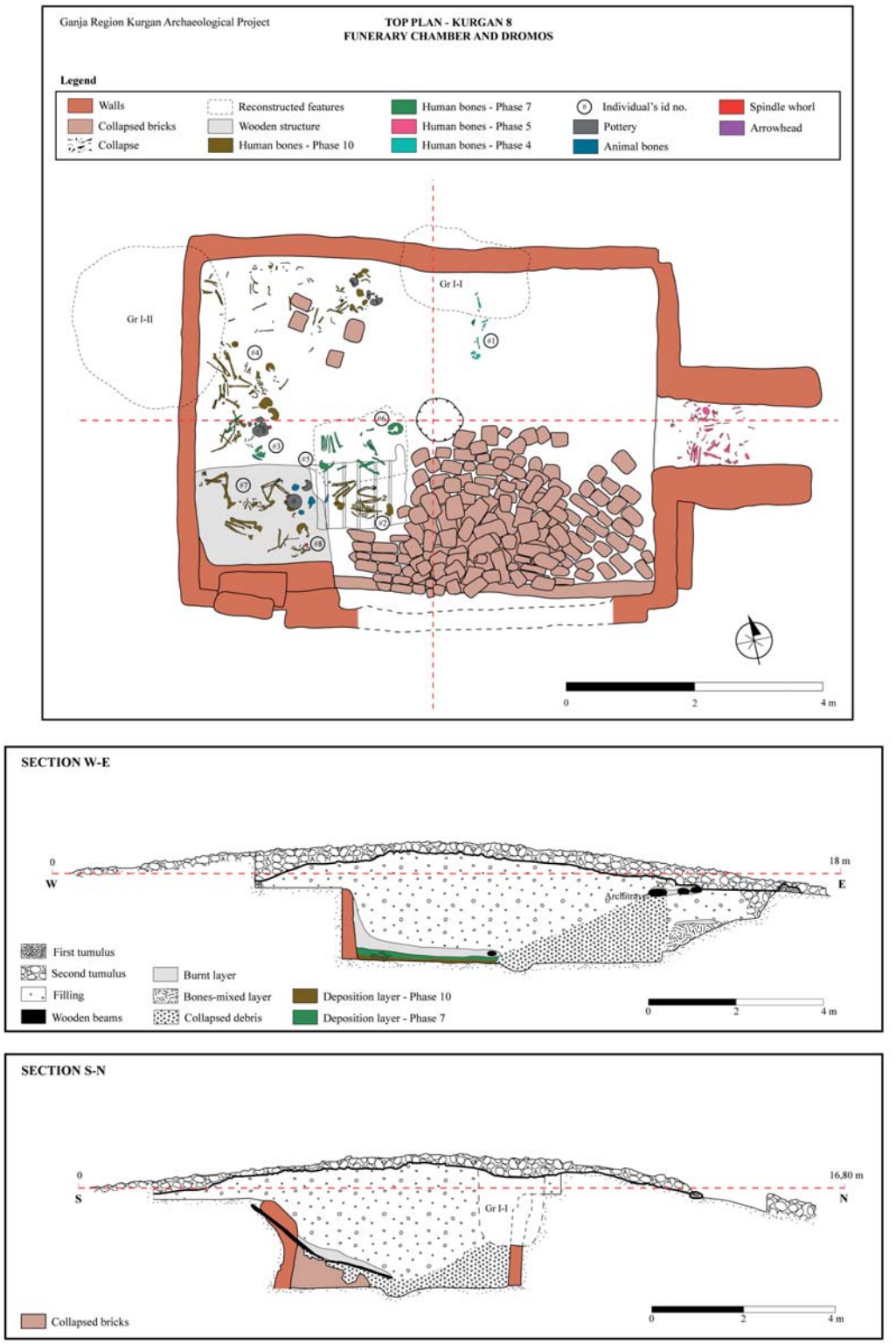

Fig. 5. Plan and sections of the funerary chamber and *dromos* of Kurgan 8 highlighting also the area of the collapse and the cut for the later graves (Gr I-I and I-II).

Fig. 6. a. General view (from the east) of the funerary chamber showing also the cut of Gr I-II along the western wall; b. Photogrammetry of the emptied funerary chamber and *dromos*.

the pits. A small pit (ca. 60 cm of diameter, 35 cm in depth) located at the exact center of the funerary chamber, which was found filled with ash and heavy burnt pebbles related to the fire occurred within the funerary chamber at the end of its use.[4]

Level 2: Use of the funerary chamber

Following a common funerary practice of the communities of Early Bronze Age western Azerbaijan, Kurgan 8 was used for multiple depositions, which were disposed according to a pattern that recalls what has been observed by archaeologists at Mentesh Tepe (Lyonnet *et al.* 2015) as well as other kurgans in the Shamkirchay and Injachay basin (Jafarov 2000)

[4] The pit might have been cut early in the construction process and used either for ritual purposes linked with fire or to house a wooden column to support the roof; in fact, the collapse of the roof and the fire do not give us clear clues on its purpose that was either structural or ceremonial. In some other Kura-Araxes kurgans of Şadılı-Uzun Rama plateau, small pits were cut along the corners of the funerary chamber (Jalilov 2018).

(Fig. 5). Bodies were clustered in the western half of the chamber in a probable attempt to optimize the space and to fill the sector opposite the tomb entrance. Although only a preliminary study has been carried out on the bones, stratigraphic observations suggest that Individuals 2, 4, 7 and 8 belong to the first phase of deposition (Figs. 5, 7). Individual 2 was laid inside the grave on a wooden sledge/stretcher probably held together by ropes (Fig. 8). The wooden sledge/stretcher had a size of ca. 1,4 × 1 m and negative traces of the wooden boards are still visible under the skeletal remains. They were probably used to transport the dead inside the chamber through the steep sloping *dromos*, but they might have also been used to carry the dead during seasonal movements, or at least for the final part of a funerary ritual. Similar patterns of wooden sledges/stretchers were found in other contemporaneous kurgans of the Şadılı-Uzun Rama plateau (Jalilov 2015, 2018). It is also interesting that carrying dead bodies inside funerary chambers with wooden vehicles is also known from the Post-Kura-Araxes ('Early Kurgans') sites of the Shida Kartli region of Georgia where wagons accompanied funeral processions (Rova 2018; Sagona 2013). The disarticulated bones that were found accumulated in the northwestern corner of the chamber can also be ascribed to the first phase of deposition, which might have been moved

Fig. 7. Individual 7 and 8 (with the fetus from post-mortem delivery) and the accompanying funerary goods.

Fig. 8. Individual 2 on the imprints from a wooden sled/stretcher.

aside in order to accommodate the bodies belonging to the second phase of deposition occurring either before or after the collapse of the mudbrick wall.[5] In order to preserve the chamber from weathering, the *dromos* might have been closed using wooden boards, whose carbonized traces have been found together with a roughly circular imprint along the edge of the step of the *dromos*.

Level 3: Collapse of the southern wall with part of the roof and the overlying tumulus

The southern wall collapsed sometime after the deposition inside the funerary chamber probably because of the exceptional dimensions of the kurgan and the use of mudbricks as construction material with the exception of the section located in the southwestern corner (Figs. 5, 99). The collapse of the wall caused also the partial collapse of the roofing that fell inside the chamber reducing the available space to be used for funerary deposition that was now limited to the portion more or less coinciding with the deposition area of the first phase of deposition.

Level 4: Rearrangement of the chamber and the floor, probably to be followed by the second phase of deposition

The pattern of the mudbricks that collapsed from the southern wall into the room seems to indicate a quick intentional rearrangement for a final use of the chamber probably for depositing a few more individuals inside the chamber as well as in the *dromos*. During this phase, some of the skeletal remains were accumulated in the northwestern corner where we found them fully disarticulated and, perhaps, partly delimited by fragmentary bricks (Fig. 5). In addition, the accumulation of a whitish layer of dirt with stones below the human bones would suggest that other inhumations pertaining to the second phase of deposition (Individuals 3, 5 and 6, Fig. 5) belong to this level; however, it cannot be excluded that, after their deposition in the funerary chamber and prior to the collapse of the roofing, the bodies have been purposely covered with a layer of natural limestone powder. Coming from this level are the extremely fragile pieces of a second carbonized wood sledge/stretcher partially covering the first one, that were exceptionally well-preserved under the remains of Individuals 5 and 6. Archaeothanatological observations suggest that the wooden boards could have also formed a box (see below).

[5] During the excavation of the funerary chamber, no mud bricks from the collapse of the southern wall were found on top of the bodies, thus suggesting that either the bodies were cleaned from the collapsed bricks before setting to fire the chamber and thus all the bodies were buried before the collapse of the wall or that the second phase of deposition occurred after the collapse of the wall. However, it is interesting to notice the strange alignment of bricks next to the body of Individual 2 as well as the fact that 4 bricks were found together with the accumulation of human bones in the northwestern corner of the chamber.

Level 5: Construction of the wooden structure. Deposition in the *dromos*. Ritual burning of the chamber and *dromos*, with final filling and rearrangement of the first tumulus

A wooden structure of ca. 140 × 130 × 25 cm[6] was built at the southwestern corner of the room, on top of a layer of mixed limestone and rubble that may have been reused from the material collapsed inside the room (Fig. 9). Examples of similar structures have been recovered from other contemporaneous kurgans in the Şadılı-Uzun Rama plateau (Jalilov 2015, 2018), thus demonstrating that setting fire to the chamber was a pivotal element of a ritual at the end of the funerary sequence. The fire was probably initiated in this sort of wooden pyre; in fact, the flames first spread with greater force in the southwestern corner of the room, where it might have been fueled by the wooden sledge/stretchers beneath the bodies. The consequent collapse of the beams and the sliding of the materials from the tumulus must have, at least in part, suffocated the flames reducing their intensity (for this reason a part of the wooden boards of the structure remain unburned), although the wooden beams continued to slowly burn beneath the debris, which is a circumstance that has favored the preservation of an exceptional quantity of carbonized wood inside the tomb (Fig. 9). At the end of this process, individuals were deposited inside the *dromos* (Fig. 5). Once the *dromos* had been filled with bones, which were mostly disarticulated and sloping towards the entrance to the funerary chamber, another intentional fire was set using chunks of logs or, most likely, selected pieces of unburnt beams from the funerary chamber. From its starting point in the *dromos* the fire spread to the architrave, which burned down over the pre-existing layer of collapse inside the chamber (Fig. 9b).

The irregular surface resulting from the destructions was finally filled to create the base of a renewed tumulus, and a single inhumation laid on a filling in the northern side of the chamber appears to be associated with this phase (Individual 1, Fig. 5). The individual was isolated and covered by an incoherent mix of stones and pebbles that caused the twisting of the body and the sliding away of the accompanying vessel from its original position near the corpse. It is still unclear the reasons behind this separate burial occurred at the end use of the funerary chamber.

Also belonging to this phase is a small pit of ca. 1 m diameter that was dug on the surface of the kurgan just outside the chamber and contained only a small handled jar with an incised decoration (S1-35-28, Fig. 12). It was probably associated with the ritual activity performed before the definitive abandonment of the funerary structure.

Level 6: Graves Gr I-I and Gr I-II. Monumentalization of the kurgan with the second tumulus

After a phase of abandonment, the visibility of the burial mound was used as a proxy for setting up a new kurgan probably dated to a Post-Kura-Araxes phase (see below) that included graves Gr I-I and Gr I-II, whose pits were excavated along the northern and western walls of the funerary chamber (Figs. 3, 4, 5). Gr I-I was excavated in the summer

[6] These measurements are only indicative, as the wooden side boards were not parallel, and the front side was missing.

Fig. 9. a. Collapse of the southern mud-brick wall and burnt wooden beams in the southern half of the funerary chamber of Kurgan 8; b. Burnt architrave and *dromos*; c. Burnt wooden structure in the southwestern corner of the funerary chamber.

of 2018 (Laneri *et al.* 2019). The earthen mound had a depth of 1,6 m, a section of ca. 2,7 × 1,6 m, and contained the disturbed remains of one individual together with few funerary goods that included a stone necklace with a bronze clasp and a handled jar, while on the southeastern side of the tomb a deposit of animal bones was found belonging to a sheep, a lamb and a snake (see below). The pit of Gr I-II measures ca. 2,6 m in diameter and 1,8 m in depth and is a single deposition (Fig. 10). A preserved beam found near the grave suggests that it had a wooden roof that was most probably removed by the looters, who probably took out some of the precious objects as well as disturbing the buried individual. A deposit of animal offerings, ceramic vessels and a bronze dagger was located along the northern section of the earthen pit.

The location of the two graves that were embedded into the old Kura-Araxes kurgan has a clear symbolic association. It maybe for this reason that a second (later) burial mound was probably built by reusing some of the stones of the older kurgan in the action of

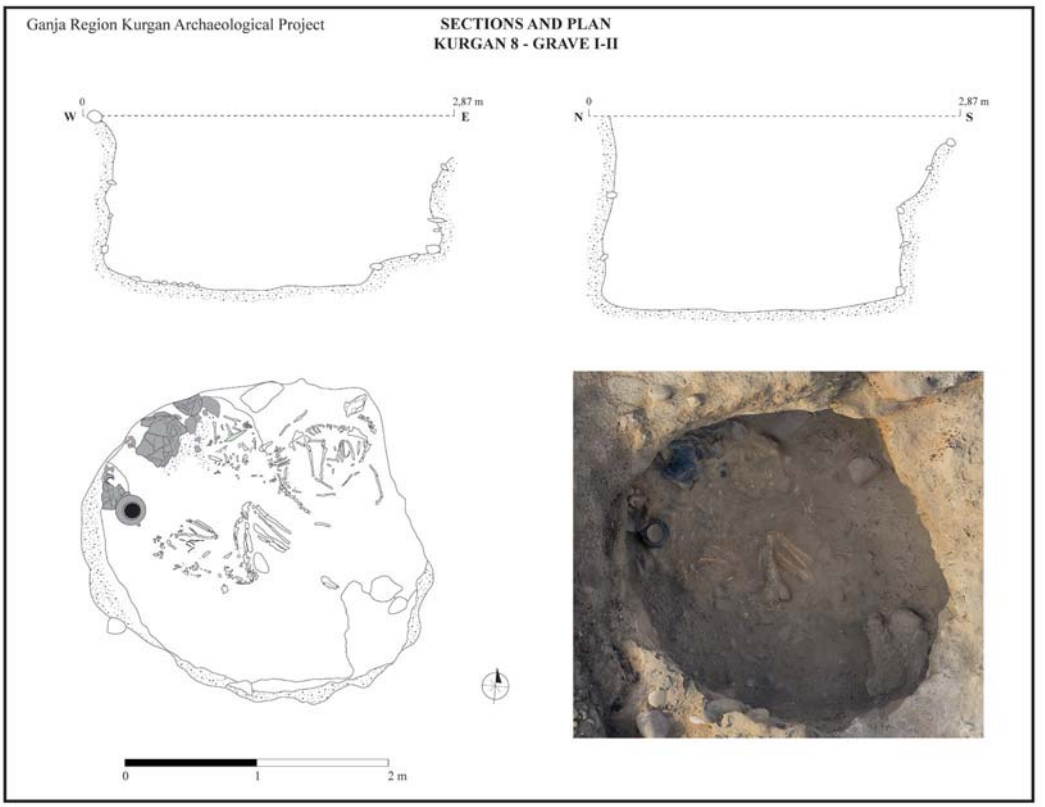

Fig. 10. Top plan, section and general view of Gr I-II.

monumentalizing it (Fig. 3). In fact, this mound consists of an external circle of stones, which incorporates also the first tumulus, but it is separated by an intermediate path that might have been used for the performance of ritual activities. From the overlapping of the planimetries of the tumuli, it is clear that these are not concentric; in fact, while the oldest has a regular circular shape, the more recent one has an oblong outer ring (with a diameter of ca. 16 m north to south and 18 m east to west) (Fig. 4). However, the two outer stone circles of the tumuli, the former and the new one, converged on a tangent point at the entrance of the *dromos* where a large stone was located.

The discovery of the earthen pits and associated burial mound of the Post-Kura-Araxes period is important to enhance our understanding of the funerary customs of western Azerbaijan between the end of the third and the second millennia BCE. In fact, it does not seem to be coincidental that the pits of the later phase disturbed only the walls of the previous funerary chamber and not the chamber itself, thus testifying to the importance of creating a long-lasting mnemonic reference to a specific locale for the communities inhabiting this region throughout such a long chronological period. This memory that passed down through many generations was associated with the significance of the burial mound of Kurgan 8 as well as with the Şadılı-Uzun Rama plateau. Such a mnemonic

reference to a 'lieux de mémoire' (Nora 1984-86) created also a sense of respect to the tradition of using kurgans and belongingness amongst the communities inhabiting this region even if in a transformed social landscape in which the socio-economic importance of the individuality of the members had emerged.

Level 7: Modern scattered temporary occupation

Modern activities at the site of Kurgan 8 consist of scattered temporary occupation by semi-nomadic people and the partial destruction of a section of the burial mound by a tractor to extract the precious white limestone of the plateau (Fig. 3), which is a practice that has been recently prohibited in accordance with the recognized cultural value of the archaeological site (Jalilov 2012; Laneri *et al.* 2019).

Material culture and pottery analysis

The quality of funerary goods associated with the use of the chamber and the *dromos* are very poor, lacking any signs of social differentiation. In particular, the pottery associated with each phase of human deposition includes a bowl and a jarlet of the Monochrome Burnished Ware assemblage. Their location in the proximity or above the skulls suggests the practice of setting meal offerings for the dead near the head or on their chest. In the case of the phase of deposition associated with Individuals 7 and 8 (i.e., probably the earliest deposition in the chamber, Figs. 5, 7), the grave goods (Fig. 13) accompanying the dead included three bone spindle whorls, limestone beads from necklaces, a flint arrowhead, goat/ram horns and part of a goat/ram's skull that were found together with the usual set of ceramic vessels (Fig. 6).

In terms of pottery typology, the materials found in the contexts associated with the use of the funerary chamber and the *dromos* clearly fits into a late Kura-Araxes I horizon (ca. 3500-3000 BCE, Palumbi and Chataigner 2014: 248). More specifically, most of the vessels are of a medium grit tempered Monochrome Burnished Ware (MBW) assemblage with a few traces of chaff and other mineral inclusions. The color hues[7] range from light reddish brown to reddish yellow, reddish brown and weak red. The surfaces of the vessels are black in color because of the extensive contact with the fire that destroyed the chamber and the *dromos*. The exterior decorations consist of a slight burnishing with the visible strokes of wooden sticks as well as applied decorative motifs mainly of raised knobs, that are evenly spaced in pairs, and raised ribbed decorations in the possible shape of horns. Regarding classes and morphological types, only two are recognizable in the pottery assemblage and correspond to jarlets with globular body, flat base, pronounced shoulders, and outflaring necks with a slightly everted rim and handles along the mouth or the neck, as well as deep bowls with a very simple profile and an omphalos base (Figs. 11, 12). In the case of the vessel associated with the latest interred individual (i.e., Individual 1 that shows signs of violent death, see below), the jarlet (S1-39-32) has only one handle clearly testi-

[7] The definition of the hues is based on the Munsell Soil Color Chart, 2000 Revised Edition.

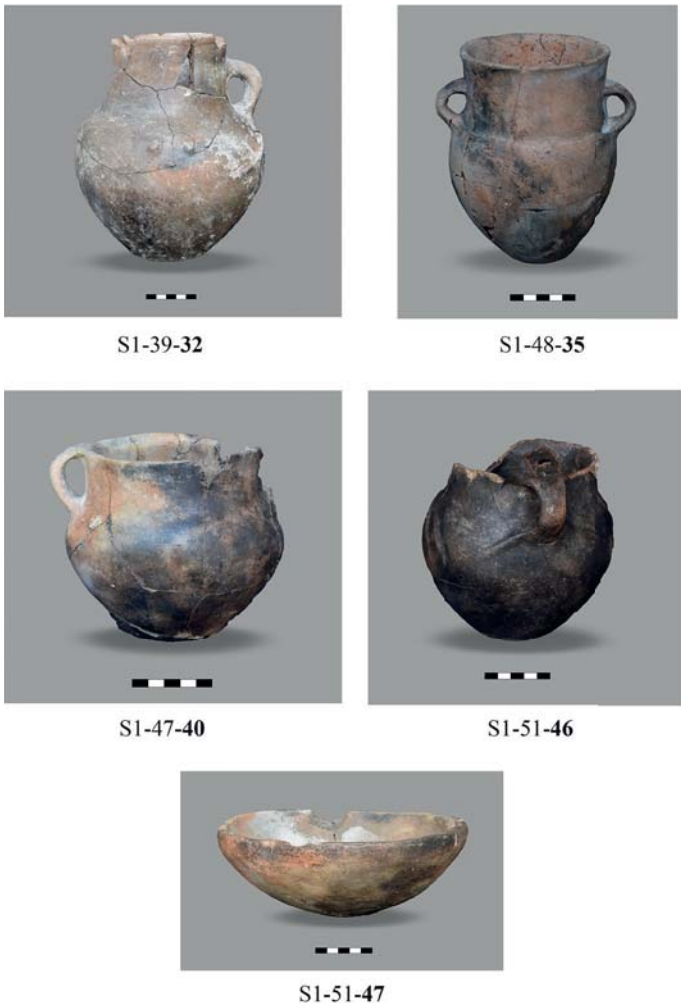

Fig. 11. Ceramic vessels from the funerary chamber (photos).

fying to its use as a liquid container.[8] Of great interest is the repetition of a decorative pattern (i.e., raised knobs and ribs in the shape of horns) on two of the juglets, probably representing a symbolic element connected with ritual purposes (S1-39-32 and S1-51-46). In the case of a small handled jarlet (S1-35-28) found in the ritual pit likely belonging to the ritual closing of the funerary chamber, this had a unique decorative pattern consisting of a series of aligned incised circles.

The MBW assemblage buried within the funerary chambers of Kurgan 8 clearly belongs to a Kura-Araxes I cultural horizon that in the Caucasus appears to be marked by the presence of burnished monochrome ware with a morphological repertoire that highlights jarlets with pronounced shoulders, ovoid bodies, cylindrical necks, handles and the presence

[8] Analysis of the residues found inside the vessels will be performed by Giulio Palumbi at the CEPAM laboratories of the CNRS.

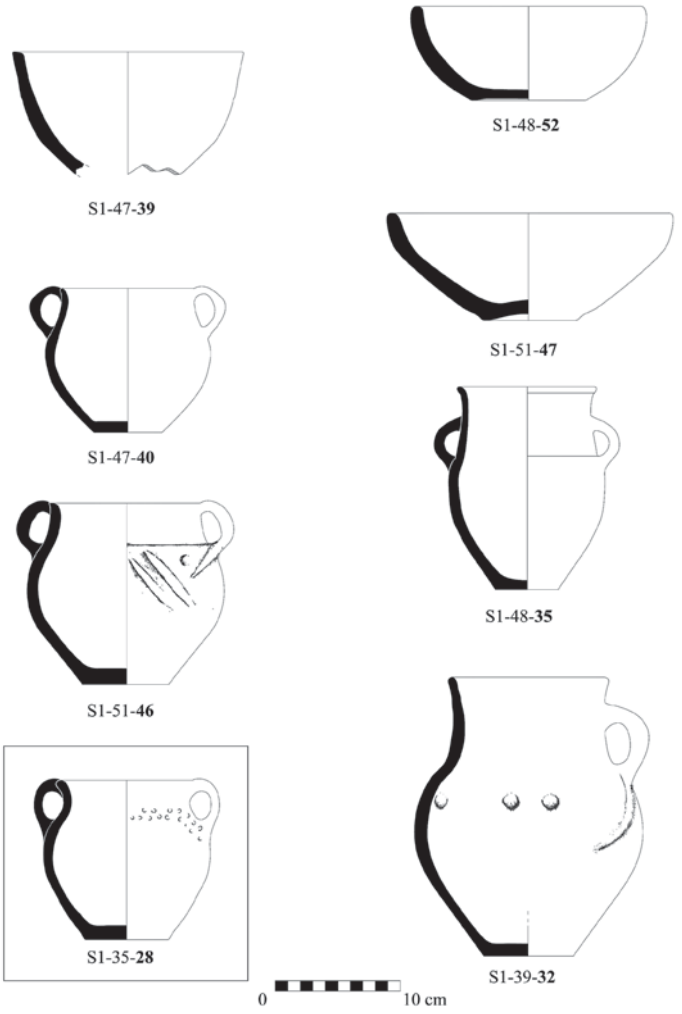

Fig. 12. Ceramic vessels from the funerary chamber (drawings).

of geometric relieved decorations (Passerini, Rova and Boaretto 2018: 96). Such a repertoire is recognizable in the Kura-Araxes I pottery of southern Caucasus (Badalyan 2014: fig. 2; Kushnareva 1997: fig. 19; Rova 2014: fig. 2; Sagona 2014: fig. 5.9; Smith and Badalyan 2009: 42-46, figs. 3-4) and eastern Anatolia (Palumbi 2008: figs. 4.12, 6.3, 6.30-32, 6.48) clearly demarcating a cultural horizon (i.e., the Kura-Araxes period) that spread due to a broader mobility of people as well as movement of goods (Sagona 2014: 213-280). Obviously, similar objects were found in other kurgans of the Şadılı-Uzun Rama plateau (Jalilov 2018: figs. 9-11)[9] as well as in other contexts of western Azerbaijan (as is the case of the materials found in the kurgan at Mentesh Tepe and the Goranboy region,

[9] Also, the three bone spindle whorls found next to Individuals 7 and 8 have clear *comparanda* with the funerary goods unearthed in other Kura-Araxes kurgans excavated in the Goranboy province (Huseynov 2019: fig. 10.1-2).

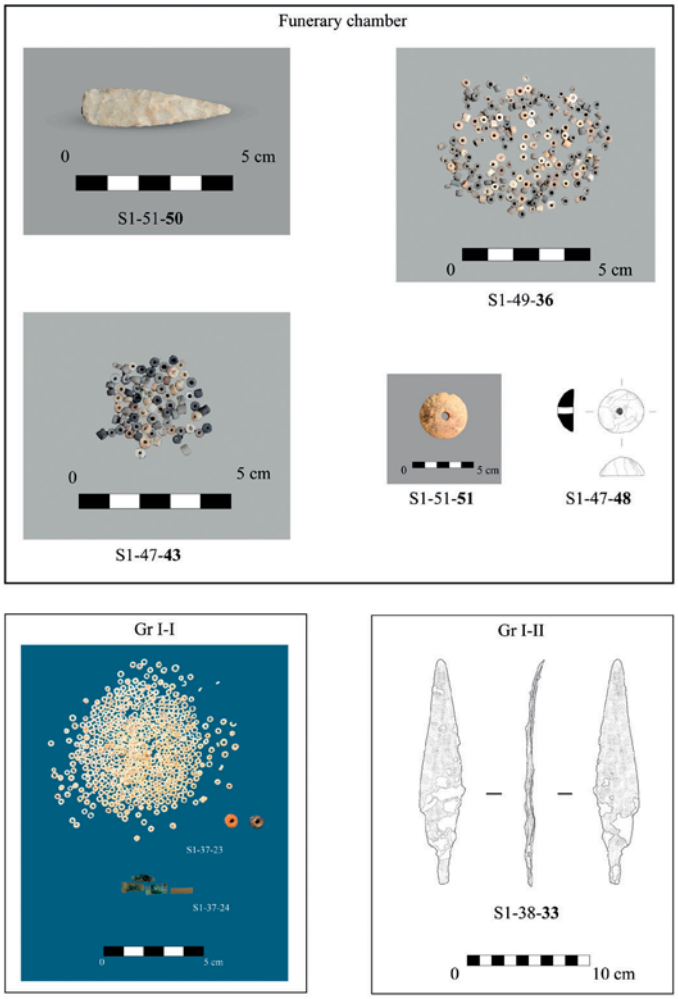

Fig. 13. Objects from the funerary chamber (photos).

Huseynov 2019: fig. 9; Lyonnet 2014: fig. 4) dated to the Kura-Araxes I period. In particular, the recent ^{14}C dates published by Jalilov for kurgans of the Şadılı-Uzun Rama plateau are in a chronological range of Cal 3350-3100 BCE (Jalilov 2018: 105).

Regarding the pottery vessels found in the graves Gr I-I and Gr I-II (Figs. 14, 15), these belong to a similar chronological horizon and thus they must have been contemporaneous. More specifically, the vessels of the Black Burnished Ware (BBW) assemblage are clear markers of the Post-Kura-Araxes or 'Early Kurgans' period (ca. 2500-2000 BCE, Passerini, Rova and Boaretto 2018: table 9). In particular, the large jars found in both graves (S1-37-27 and S1-38-30) have morphological characteristics (i.e., a globular body, short necks, slightly everted and thickened rims, flat bases, and wide handles along the shoulders) typical of the region and especially have clear similarities with some of the funerary goods found in Tomb 1 at the site of Berkaber located on the Lesser Caucasus directly north to the Lake Sevan basin (Avetisyan and Bobokhyan 2008: fig 3). Within the funerary

S1-38-**29**

S1-38-**30**

S1-38-**31**

Fig. 14. Ceramic vessels from Gr I-II (photos).

repertoire found in this grave, of great interest is a peculiar jar of the Black Burnished Ware assemblage with a bi-conical body, a single wide handle, an everted rim and the impression of a seal on the upper section of the shoulder that has close similarities with a jar found as part of the funerary goods of previously mentioned Tomb 1 at Berkaber (Smith and Badalyan 2009: 52-55). In terms of pottery assemblages, similarities can also be found amongst objects from archaeological contexts in Georgia (Shatberashvili *et al.* 2010: 192, pl. I, 8; IV, 2-4) testifying to a broader network of cultural exchange during this specific chronological period that involved all the regions surrounding the Lesser Caucasus.

Furthermore, the ubiquitous presence of Black Burnished Ware in the intrusive burials of Kurgan 8 represents a new element in the ceramic repertoire of the burial area of the Şadılı-Uzun Rama plateau and could be interpreted as a continuity between the funerary traditions of the Kura-Araxes I period and the 'Early Kurgans' phase that probably epitomizes the end of the Kura-Araxes period in the southern Caucasus. This element can also be interpreted as a shift from communal to individual burials in the use of kurgans as funerary mounds in western Azerbaijan. This shift is further highlighted by the presence of bronze items amongst the funerary goods and especially by a bronze dagger with a hoop

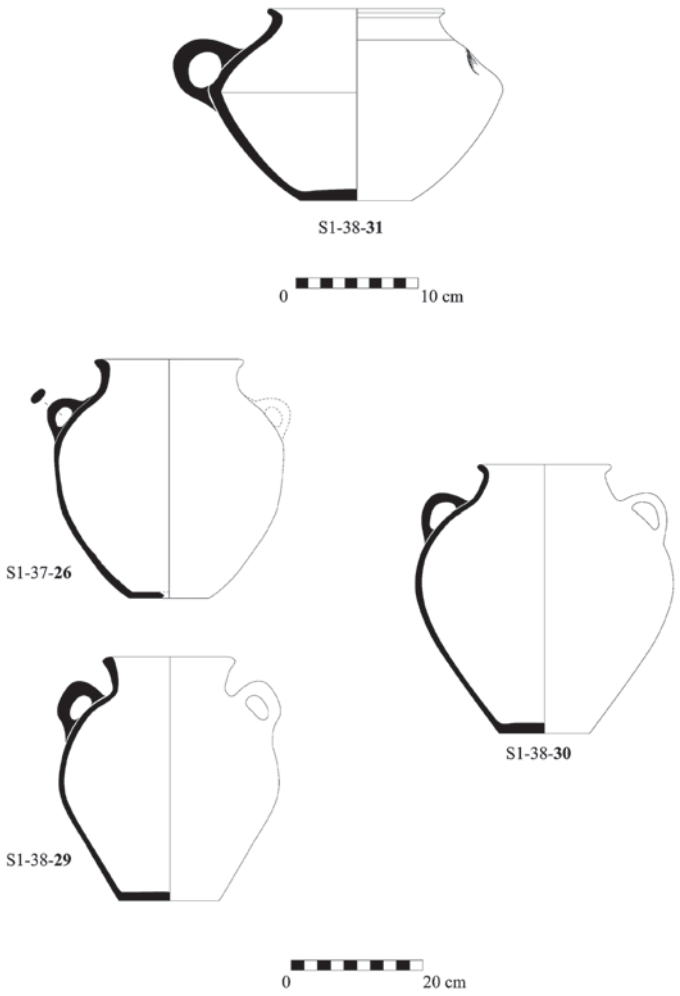

Fig. 15. Ceramic vessels from Gr I-I and Gr I-II (drawings).

found in Gr I-II (S1-38-33, Fig. 13), which is also a clear marker of the social status of the individual buried inside the funerary pit, as well as confirming the link with the funerary goods found at other 'Early Kurgans' cemeteries in the southern Caucasus (e.g., Kurgan 4 at Tqemlara in Georgia, Shatberashvili *et al.* 2010: 193, pl. III, 4).

The Skeletal Remains of Kurgan 8

(Modwene Poulmarc'h, Valentina D'Amico, Yılmaz Selim Erdal)

Kura-Araxes kurgans in western Azerbaijan were mostly used for collective depositions. Many of them were intentionally fired at the end of their usage. Nevertheless, Kurgan 8

presents a different scenario compared to some other kurgans in the Şadılı-Uzun Rama plateau, Mentesh Tepe and others of the southern Caucasus (Akhundov 1999; Jalilov 2011; 2012; 2015; 2018; Museyibli 2014; Museyibli and Ağalarzade 2013; Palumbi 2008; Poulmarc'h, Pecquer and Jalilov 2014; Erdal *et al.* 2019). All the graves have been dug up during the 2018 and 2019 excavation seasons. This study aims at describing the original position of the corpses.

Methodology

The skeletal remains of Kurgan 8 at Şadılı-Uzun Rama were excavated according to archaeothanatology methods (Duday *et al.* 1990; Duday, 2009; Duday *et al.* 2014). This approach is based upon field anthropological observations. It includes an accurate record of the position of each bone as well as of any element of the tomb. Archaeothanatology thus enables a valid interpretation of the process of decay of the body by close attention to its skeletal remains. Thanks to this method, funerary gestures (original position of the body, post-depositional practices, etc.) can be reconstructed. Moreover, in the case of collective burials (funerary depositions at different times), this method makes it possible to establish the internal deposition chronology and to interpret the spatial distribution and organization of the burials.

The bioarchaeological analysis could only be carried out on three adult individuals (Gr I-I, Gr I-II and Individual 1 from the funerary chamber). Due to the preservation conditions of the skeletal remains, especially of Gr I-I and Gr I-II, the analysis was extremely constrained. The age at death of adults was estimated according to the Schmitt method (2005), while sex is undetermined (Buikstra and Ubelaker 1994; Murail *et al.* 2005; Bruzek 2002). Bioarchaeological investigations such as demographic pattern, morphological characteristics and genetic makeup, dietary habits and mobility of Kura-Araxes people will be carried out in the future seasons.

Kurgan 8, a tumulus-shaped grave, was characterized by the presence of a funerary chamber with a *dromos* in the eastern part. The funerary chamber was used for funerary depositions belonging to different phases, in Level 2 and maybe Level 4, and finally in Level 5, while the *dromos* was used most probably only in final phase of use. Moreover, two simple pit graves, registered as Gr I-I and Gr I-II, were dug up in the northern and western borders of the funerary chamber of the tumulus. They belong to a phase successive to the abandonment of the Kurgan 8 (Level 6).

The funerary chamber of Kurgan 8

Apart from the case of Individual 1, all human skeletal remains of the funerary chamber were found concentrated on the side opposite to the entrance (Fig. 5). Northern and southern depositions were separated here by a sort of passageway created in the middle of the chamber in order to reach the western wall. The northwestern side of the tomb was occupied by scattered human skeletal remains.

During the excavation, at least eight individuals have been identified. They were found in primary deposition in the southwestern part of the tomb, but also in the northwest

(Individual 4) and north (Individual 1). Seven individuals were discovered in two layers of deposition belonging to Level 2 and possibly 4. Instead, Individual 1, found at the northern side of the tomb, belongs to a later phase, Level 5, corresponding to the filling of the funerary chamber and the *dromos*.

First phase of deposition (Level 2, Phase 10)

This phase corresponds to the first use of the tomb. Human skeletal remains were laid on the lowest layer of the funerary chamber and were covered by sand, soil and stones of different size (mostly pebbles). Individual 2, 7 and 8, together with the scattered and disarticulated bones in the northwestern corner of chamber belonged to this first layer. The stratigraphic position of Individual 4 is not clear yet. Most probably it belongs to the first phase of deposition as well.

It should also be mentioned that at least three subadults, found under Individual 3, might belong to this layer as well. With the aim of better describing them in future investigations, we do not include them in this preliminary study.

The scattered and disarticulated bones located in the northwestern side of the chamber included both cranial and postcranial skeletal remains of adults and subadults. Further analysis on these skeletal remains could allow us to provide the exact minimum number of individuals buried in this tomb. The bones were found mixed with stones and four mud brick fragments belonging to the collapsed southern wall. Almost all of the bones were unarticulated, except for a portion of a trunk and pelvis that was very poorly preserved but still in anatomical connection. It seems to demonstrate that these were moved and partially disturbed during the second phase of deposition (pre- or post-collapse), in order to make space for the new inhumations. Fragments of calcified tissues have been found on the anterior and left side of some thoracic vertebrae and on the ventral surface of some ribs. A concentration of cranial remains was found in the easternmost area of these scattered bones. Fragments of vessels and animal bones were also discovered near them. No traces of fire have been observed in this part of the chamber.

Individual 2 (Fig. 8) was found in the southern side of the funerary chamber, to the south of Individual 5 and the southeast of Individual 7. Thanks to epiphyseal union of the bones, it is proposed that the skeleton belongs to an adult individual. The atlas-sacrum direction follows an E-W orientation. The skull was northwest faced. While cervical, upper thoracic vertebrae and the skull appeared by their left side, the lower portion of the thoracic vertebrae and the lumbar ones were anteriorly visible. This means that the individual was laid on the back with the head resting on the right side. Lower limbs were bent on the right of the trunk. The right forearm was flexed at 45° and laid on the ground, while the left forearm was flexed at 60° and laid on top of the right hemithorax and clavicula with the hand in front of the face. Both hands were clenched; the right one visible in latero-medial view while the left one in *norma dorsalis*. The preservation of the most labile connections (such as those of hands and feet) indicates a primary deposition. The lower limbs as well as the coxal bones darkened due to the impact of fire. The color of the bones (black) suggest low firing temperatures (Mays 2002). A caprine horn was discovered at the north-west of the left coxal. It has been

proposed that the individual laid on a sort of wooden sledge/stretcher, traces of which were found impressed on the ground.

Individual 4 was found in the northwestern side of the funerary chamber (Fig. 5). As indicated by the maturity of the bones, the individual is an adult. The preservation of anatomical connections indicated a primary deposition. Although the bones were in a poor state of preservation and the skeleton was found disturbed by stones, it is possible to suggest that this individual laid in flexed position, in left *decubitus lateralis*. Lower limbs were found in better conditions than the axial and the remaining appendicular skeleton. The atlas-sacrum direction follows a SE-NW orientation. The position of the left upper limb is unknown, while the right one was flexed with the hand resting under the skull. There is no trace of fire on the bones. No objects, ornaments or animal remains were found in association with this skeleton.

Individual 7 was found in the southwestern corner of the chamber (Figs. 5, 7). The skeleton belongs to an adult and most likely to a female. Sex has been estimated based on the sciatic notch shape (Buikstra and Ubelaker 1994). The individual laid in a flexed position, in right *decubitus lateralis*. The atlas-sacrum direction follows an E-W orientation. The skull faced to the north. The skeleton was rather well preserved, with the appendicular skeleton in better preservation conditions than the axial one. Nearly all of the skeleton was found articulated. The lower limbs were flexed, with the left limb overlapping the right one. With respect to the axis of the trunk, the right femur makes an angle of 90°, while the left one an angle of 110°. Regarding the upper limbs, the right forearm was 45° flexed toward the skull with the hand resting near the face, while the left one was 90° flexed with the hand reaching the posterior area of the right elbow. While the right hand was found in *norma palmaris* and stretched, the left one was clenched and in *norma dorsalis*. No traces of fire were present. Two vases and three caprine skulls were found near the skull of this individual. A spindle whorl was found in the individual's right hand. Furthermore, an animal mandible and a flint blade were found under the individual's spine.

Individual 8 was found between Individual 7 and the western end of the southern wall (Figs. 5, 7). The individual is an adult and most likely a female (sex has been estimated based on the sciatic notch shape, Buikstra and Ubelaker 1994). The skeleton was not in a good state of preservation, with the upper and lower portions disarticulated and the skull, lying on the right side, not in anatomical connection. The individual was deposited in a contracted position on the belly. The skeleton was SE-NW oriented. The lower limbs were flexed in such a way that the feet reached the posterior area of the hip bones. It should also be noticed that the lower limbs and the coxal bones were found at a higher elevation (approx. 30 cm) than the upper skeleton. The left forearm was flexed at 90° and rested under the chest. The left hand, which was in perfect anatomical connection, laid on its dorsal surface and was slightly clenched. The right *humerus* was completely disconnected from the scapula and located between the coxal bones and the upper part of the skeleton. The right ulna was still connected to the *humerus* while the radius was no longer in anatomical position. The preservation of the most labile connections (right hand, *patellae*, etc.) indicates a primary deposition. A more detailed analysis of the bones will allow us to clarify the deposition procedure. No traces of fire were found. One spindle whorl was found near the right scapula.

Second phase of deposition (either pre- or post-collapse)

This layer was superimposed on the first phase of the deposition layer. It is characterized, at the southwestern corner of the chamber, by a very hard white layer, mixed with stones of various dimensions, ash and burnt traces. Individuals 3, 5 and 6 belong to this layer.

Individual 3 was found on a compact layer above the bones of the first phase of deposition, between Individual 4 and the wooden niche at the southwestern corner. Based on epiphyseal union, it is possible to state that the individual was a subadult. The axial skeleton was partially disturbed, and the skull very fragmented. The skeleton laid in a flexed position, in right *decubitus lateralis*. The atlas-sacrum direction follows a SE-NW orientation. The skull faced northeast. The preservation of anatomical connections indicated a primary deposition. Almost all axial skeleton bones were reddish brown, dark brown or black in color. Bones of the pelvis and partially of the right lower limb were dark brown and black. This coloration suggests low firing temperatures as well as for Individual 2 (Mays 2002). Other burnt skeletal remains were found within a vessel near the chest of Individual 3. In this preliminary phase, it is not possible to state with certainty if they belong to one or more individuals, but we can claim that they belong to subadults, most probably infants. In addition to the ceramics, a caprine horn was found against the skull of Individual 3, and several beads, which probably formed a necklace, were discovered in association with this individual.

Individual 5 was situated southwest of individual 6 (Fig. 5). The position of this individual was not obvious. In fact, the upper portion of the skeleton seemed to have undergone a re-intervention. It is expected that the bioarchaeological study of the bones will provide further information about this deposition. We are able to state that it belongs to an adult individual. The bones present the most advanced stage of combustion (bone coloration is white and blue) compared to the other individuals. Indeed, fire was very intense in this area. That's why this area has been suggested as the starting point of the fire. Nevertheless, further confirmation is necessary. In addition, a significant layer of burnt wood was found directly beneath these bones and traces impressed on the ground were visible as well. It is proposed that, like Individual 2, Individual 5 was deposited on a wooden sledge/stretcher. Moreover, that sledge/stretcher partly covered the lower limbs of Individual 2.

Individual 6 was situated northeast of Individual 5 (Fig. 5). The skeletal remains belong to an adult. The corpse was deposited on the back with the lower limbs flexed on the right side of the trunk. With regard to the position of the thoracic vertebrae, which appear by their upper-anterior face, it seems that the upper part of the individual was partly elevated. During the decomposition, this position led to the fall of the skull, its disconnection from the cervical vertebrae and the disconnection of these latter from the thoracic spine. The original position of the right upper limb is unknown. The left upper limb was extremely flexed and has moved during the decomposition process. In fact, we can notice that the *humerus* was completely disconnected from the scapula and its head rested against the end of the scapular spine. The lower limbs were highly bent. The presence preservation of anatomical connections indicated a primary deposition. Like Individual 5, some burnt

wood was found directly beneath the skeleton and some traces impressed on the ground. In addition, a burnt wooden board was also found in the area of the individual's lower limbs, suggesting that the individual might have been placed in a wooden box. If we consider this last evidence, together with the fact that the position of the thoracic vertebrae shows an elevation of the upper part of the body, it seems that the individual was resting partly against the east side of this box. With the exception of the skull and cervical vertebrae, all the bones are affected by fire. A caprine skull horn was found to the north of the skeleton while a complete ceramic vessel was located to the south.

Level 5 (Phase 4)

Only one funerary deposition, Individual 1, belongs to this phase. No traces of burning were observed.

Individual 1 was found in the northern side of the chamber (Fig. 5). According to its stratigraphic position, this individual can be accepted as the last deposition in the funerary chamber. It has been suggested that it was deposited after the ritual fire and before the final filling of the chamber. The presence of anatomical connection indicates a primary deposition. The skeleton was partially disturbed by the presence of stones. The remains belong to an adult whose sex and age at death cannot be defined due to the poor preservation of the coxal bones. The individual was deposited in a contracted position on the belly. The atlas-sacrum direction follows a SE-NW orientation. According to the position of the *processi spinosi*, the bending of the spine and the torsion of the upper limbs, it is stated that it slightly laid on the right side. The lower limbs were very flexed with the feet resting under and slightly posteriorly to the hips. The upper limbs were also flexed under the chest with the forearms very near to each other. A compression fracture was recognized on one vertebra. A trauma, such as a fall or a vertebral shock can be the cause of such a fracture.

Dromos

A large concentration of bones, which were in a very poor state of preservation, was found in the *dromos* (Fig. 5). The level of the bones, which were mixed with many stones, follows the slope of the *dromos*. Both cranial and postcranial remains of adults and subadults were found. No anatomical connections were observed and the minimum number of individuals is not yet known. The scattered nature of the bones in the deposit could be the result of successive depositions that pushed the previous ones (this would explain the presence of small appendicular bones). No traces of fire were found, except for the bones close to the surface. Animals bones and a complete vessel were also discovered.

Gr I-I

The burial Gr I-I, discovered in 2018, was a simple pit grave belonging to an adult individual whose age at death was estimated between 20 and 39 years (Laneri *et al.* 2019). The upper part of the skeleton, except for a few phalanges of the hands, was missing,

probably because of the later disturbance by the tomb looters. The lower limbs were flexed on the right side. The preservation of anatomical connections indicated a primary deposition.

Gr I-II

The tomb Gr I-II, excavated in 2019, was a pit burial which contained the remains of an adult individual whose sex and age at death were not estimated due to the poor preservation of the coxal bones and the skeleton in general (Fig. 10). The atlas-sacrum direction shows a NW-SE orientation of the body. The skeleton, which was in poor state of preservation, laid in a contracted position, in left *decubitus lateralis*. The preservation of anatomical connections indicated a primary deposition. The poor preservation of the bones makes us unable to discuss the individual's decomposition space (empty or filled). Most striking was the total absence of the individual's skull, which might have been removed during the later looting of the tomb.

Preliminary conclusions

Unlike the kurgans previously excavated at Şadılı-Uzun Rama and Mentesh Tepe (Poulmarc'h 2014; Jalilov 2018; Erdal *et al.* 2019), the collapse of the southern wall of the funerary chamber of Kurgan 8, for the first time, has given us the opportunity to study in detail the original modes of funerary depositions in a kurgan of the Kura-Araxes I in western Azerbaijan.

Almost all the individuals, with the exception of Individuals 1, 5 and 6, had the same SE-NW orientation, and laid in a crouched or flexed position on right *decubitus lateralis*. Instead, Individual 1 and 8 laid prone, with very flexed lower limbs. Only Individual 4 laid in left *decubitus lateralis*. These data suggest that no differences in deposition modes exist in relation to the phases of the use of the tomb.

We can say that at least eight individuals were buried in the funerary chamber. Moreover, at least two levels of deposition have been recognized based not only on the stratigraphic sequence, but also on the presence of traces of fire only on the skeletal remains found in the upper levels. Secondary depositions characterizing the northwestern area of the chamber might be explained as a result of the rearrangements of the first depositions in order to allow the disposal of the second ones. Further analysis of all human skeletal remains will provide the exact minimum number of individuals buried in this tomb.

Based on the coloration of the bones of Individual 5, it seems that fire was most intense in this part of the chamber, and thus that the area may be accepted as the starting point for the fire. Moreover, the coloration of some bones of Individuals 2 and 3, suggesting low firing temperatures, might indicate a slow burning caused by the collapse of the roof during the fire of the closing ceremony.

It is important to keep in mind the discovery of wooden sledge/stretchers, or even boxes, on which at least three individuals were deposited. This element raises the question of the transportation of the corpses into the burial chamber. Similar wooden artifacts were found at the center of the graves of the Kurgans 1 and 5 in the Şadılı-Uzun Rama region

(Erdal *et al.* 2019). They represent a very important and new element in understanding the process of transportation and deposition of humans during the Kura-Araxes period in the southern Caucasus (Poulmarc'h 2014; Poulmarc'h, Pecqueur and Jalilov 2014).

In conclusion, Kurgan 8 contained primary depositions of both subadults and adults, either females and probably males, characterized by the presence of grave goods and animal bones. It can be proposed that it was continuously used for funerary depositions also after its ritual destruction and abandonment, as demonstrated by the discovery of the earthen pit graves (Gr I-I and Gr I-II) associated with the construction of the second tumulus, suggesting a strong communal link to this place, which was probably considered as sacred.

A preliminary assessment on the animal remains from Gr I-I and Gr I-II (K8, Uzun Rama)

(Remi Berthon)

The animal bones and teeth recovered in Gr I-I are poorly preserved. This could have been caused by an alkaline or acid soil. Even the tooth dentine is in a poor state of preservation. The bones are brittle and their surfaces are heavily eroded. The animal remains were found south of the body and the large vessel. A few bones were lying on top of the human tibia, indicating that the animal offerings were placed in the grave after the human body. Most of the animal remains come from a probably complete sheep skeleton. Its head was located just south of the vessel. The wear stage of the teeth (Payne 1973) indicate that this animal was aged between 4 and 6 years old when slaughtered. Both lower and upper third molars exhibit linear enamel hypoplasia a few millimeters above the junction with the root. This pathological mark indicated that this animal survived a developmental stress that occurred during its third year of life. The skull is not preserved well enough to estimate the presence of horns. Other elements such as the pelvis are also too fragmented to discuss the sex of this animal. Although the different skeletal parts have been disturbed, this skeleton is virtually complete and it seems that a whole adult sheep was deposited in the grave. The poor preservation of the bone surfaces doesn't allow for the identification of slaughtering or butchering marks. The second animal deposited in the grave is also a sheep. Its remains were found beneath the first one, close to the feet of the human skeleton. The wear stage of the teeth (Payne 1973) and the epiphyseal fusions (Barone 1999) indicate that this animal was aged between 6 months and 1 year when slaughtered. The bones of juvenile individuals are less robust than those of adults. This explains why the skeletal elements of this lamb are even less well preserved than the ones of the sheep skeleton. We can note, however, that most of the skeletal elements, and in particular the vertebral column, were in anatomical connection suggesting that a whole lamb was deposited in the grave with no evidence for butchering. A few additional bones of sheep or goat were also found. They could originate from the soil filling the grave. It is more likely that only one sheep and one lamb were deposited in the grave.

The animal bones from Gr I-II have not been studied yet. We can, however, notice from preliminary observations that at least three sheep or goat were deposited in the grave: a complete adult, a probably complete juvenile and at least the skull and vertebral column

of another adult. Hence, we can conclude that there were some similarities in the deposition of animal offerings in both Gr I-I and Gr I-II. They differ from the earlier kurgans of the Kura-Araxes I phase at Uzun Rama where animal offerings consisted mostly of sheep and goat horns and not complete animals (Poulmarc'h, Pecqueur and Jalilov 2014).

The excavation of the kurgans in the modern city of Ganja and the potentials for a Kurgan Archaeological Project (KAP)

(Nicola Laneri, Guido Guarducci, Modwene Poulmarc'h, Valentina D'Amico, Yılmaz Selim Erdal, Lola Huseynova)

The other region investigated by GaRKAP is the area northwest of the modern city of Ganja that is part of the Heydar Aliyev Park. Along the northern ridge of this park is a series of small- to medium-sized tumuli. Here we continued the work previously performed by Jalilov in excavating the kurgans of the Late Bronze-Early Iron Age that dots the landscape of the Ganja river that is an affluent of the Kura river. In particular, after having excavated Kurgan 6, we extended our project to excavating Kurgan 7 and an additional half-moon shaped stone structure located directly south to Kurgan 7 (Fig. 16). Moreover, Kurgan 7 has a diameter of ca. 6/7 meters and highlights a similar structural pattern as Kurgan 6:

– an earthen pit of ca. 2,2 × 1,8 m size and 2 m depth that was excavated into the natural bedrock that was composed of soft lime and pebbles;
– an external circle of large-to-medium sized stone embedded into the natural bedrock;
– an overlaying tumulus composed of medium-to-small sized stones and the dirt excavated from the funerary earthen pit that covered the funerary chamber and the inner edges of the outer stone circle.[10]

In the first GaRKAP report (Laneri *et al.* 2019) we briefly presented a few sherds and other objects coming from Kurgan 6. The kurgan had been looted and heavily disturbed, and probably for this reason the total number of sherds and objects was very limited. Nevertheless, it was possible to associate the sherds to the typical LBA-EIA period known in this area as Chodžali-Kedabeg culture, also known as Khojaly-Gadabay (c. 14th-9th century BCE) (Castelluccia 2017; Jalilov 2010, 2011; Sagona 2018: 380).

This interpretation seems to be confirmed by a new lot of pottery discovered within a large kurgan (K7) excavated this year (2019) in the Heydar Aliyev Park in Ganja city, positioned 155 m from K6. From the second half of the filling and bottom part of the pit of the funerary chamber a large number of sherds (c. 200) were collected with similar and in most cases identical characteristics. This report presents a small selection of these sherds (Fig. 18). They all have a medium-coarse temper with incised grooved lines and/or wavy lines on the external surface in the upper part of the vessels, which are handmade and show dark gray to black or brown surfaces with strong burnishing traces. In particular, from among the examples of this pottery assemblage we have found fragments of a small jar

[10] Obviously, the looting of the funerary chamber had badly disturbed the kurgan making the reconstruction process very difficult.

Fig. 16. Photogrammetry of Kurgan 7 at Heydar Aliyev Park, Ganja, showing also the halfmoon shaped stone structure.

(S29-12-53), a hemispherical bowl (S29-12-54), an ovoid bowl (S29-12-57) as well as two flat bases (S29-12-55, S29-12-56).

The techno-morphological traits of this pottery assemblage clearly indicate a strong connection with the so-called 'Nairi Ware' (Guarducci 2012; 2019; Özfırat 2018), i.e. a pottery type belonging to the Late Bronze-Early/Middle Iron Age predominantly present in the southern Caucasus and eastern Anatolia. 'Nairi Ware' includes the more renown Grooved pottery, along with other ceramic types, and was mainly produced by semi-nomadic communities although not exclusively. Khojaly-Gadabay, as with other local cultural horizons of this period in the nearby area, for instance the Lchashen-Metsamor 3-5 phase in Armenia, is part of the Nairi phenomenon even though it appears that we are at the fringes of this framework.[11]

In fact, the characteristics of the LBA-EIA pottery discovered in the kurgans of Ganja are also present in numerous coeval archaeological sites of Azerbaijan and Nakhichevan, including Oğlanqala (Ristvet *et al.* 2012), Yurdu (Bakhshaliyev and Marro 2009), Sarıdere (Bakhshaliyev and Marro 2009), Yurdchu (Bakhshaliyev and Schachner 2001), Hakkıhlık (Bakhshaliyev and Marro 2009), Kolanı (Bakhshaliyev and Marro 2009), Tovuzchai (Museyibli *et al.* 2008) and several others.

Kurgan 7 was also looted heavily and most probably several times. In fact, in the upper part of the looters' intrusion, which more or less collimates with the pit of the funerary chamber, were discovered a few reddish-yellow sherds with a medium grain temper that was manufactured on a wheel (Fig. 18, S29-06-41, S29-06-42). The morphology and characteristics of these sherds seem to indicate a much more recent chronology.

[11] For a detailed reconstruction of the connected socio-economic landscape and of the pottery production please see Guarducci 2019.

Fig. 17. Burial of an individual inside Kurgan 7.

In terms of human remains, in Kurgan 7 the remains of one individual (Fig. 17) were found at the bottom of the pit. The biological study of the bones has not yet been carried out, but it's already possible to state that is an adult individual, based on the complete maturity of the bones.

The skeleton is incomplete, it's represented by: the left scapula, the left *humerus* head, the distal part of the both clavicles, some vertebrae, some ribs, the sacrum, some bones of the left hand, the majority of the bones from the right hand, the distal part of both femurs, the two legs and the two feet. The spatial organization of the skeletal remains found *in situ*, which respects the anatomical logic and the preservation of anatomical connections (vertebrae, right hand, the lower limbs, the left foot), indicates a primary deposit.

Moreover, considering the disposition of the available bones it can be determined that the individual was oriented north-south and was deposited on his back with the lower limbs bent on the right of the trunk. The position of the upper limbs is unknown. The absence of parts of the bones does not allow us to specify the individual's decomposition space (empty or filled). The fact that the skeleton is incomplete is most likely due to looting.

In the future, we are planning to create a Kurgan Archaeological Park (KAP) in collaboration with the local city council that will be open to the public and explain the important role played by the kurgans in the history of western Azerbaijan and the whole southern Caucasus. The creation of such a park hopefully will also stimulate, together with tourism, a local awareness for protecting kurgans from looting and promoting a sense of historical roots for the local people of Ganja.

Conclusions

Kurgans are a pivotal element in the funerary customs of ancient people inhabiting the southern Caucasus. During the last two years, the results obtained by the Ganja Region Archaeological Kurgan Project have been able to reconstruct the funerary sequence of one of the largest late fourth millennium BC kurgan in the Uzun Rama plateau that

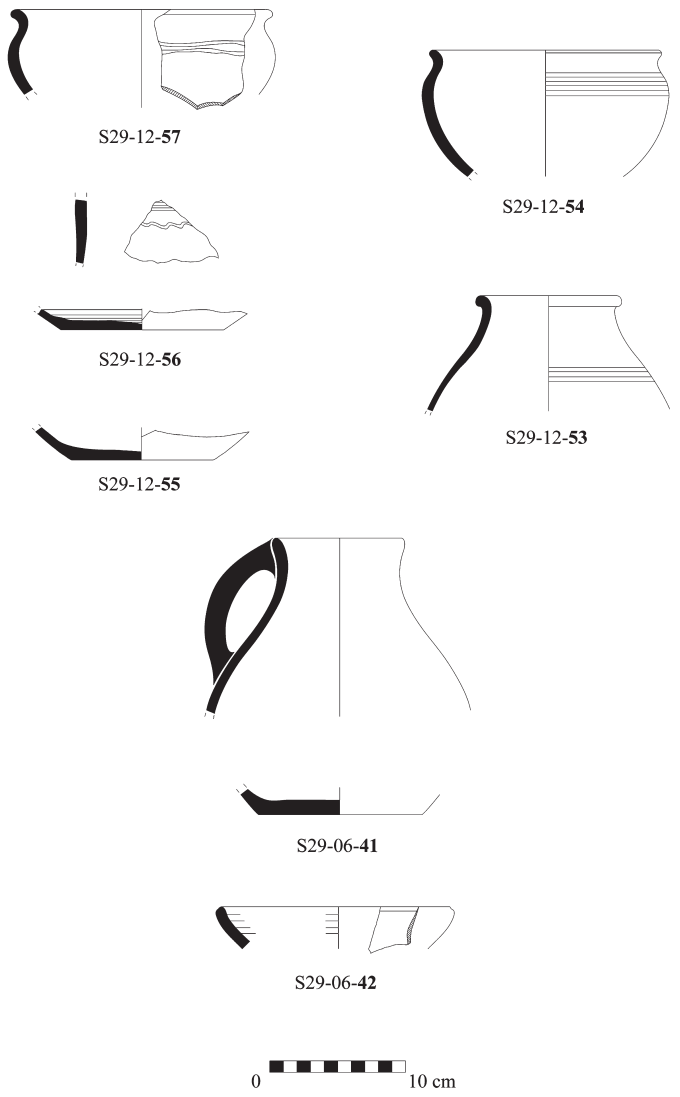

Fig. 18. Ceramic vessels from Kurgan 7 (drawings).

represented an 'ancestral landscape' for the nomadic community crossing between river valleys and the mountains of the Lesser Caucasus. In so doing, the archaeologists involved in the project have been able to confirm the use of these funerary monuments as a collective burial during the Kura-Araxes I period as well as the custom of purposely setting them to ritual fire at their end use, confirming data available from other western Azerbaijani contexts. However, using a biographical approach, they have also been able to reconstruct how this specific kurgan (i.e., Kurgan 8) has been reused after a long time of abandonment, thereby demonstrating the mnemonic reference assigned by the communities of the southern Caucasus to these funerary monuments that transcend their historical value to be embedded into a metaphysical element for connecting the world of the 'below' with the celestial 'above'.

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APPENDIX: FINDS CATALOGUE

Description: MBW: Monochrome Burnished Ware, PSW: Plain Simple Ware, BBW: Black Burnished Ware; *RØ:* rim diameter in cm; *BØ:* base diameter in cm; *Th.:* thickness in cm; *Wg.:* weight in g; *DØ:* diameter in cm; *Ln.:* length in cm; *Wd.:* width in cm; *Fabric:* sequence of inclusions from highest to lowest density; *Colour:* refer to Munsell Soil Colour Charts 2000.

Figure	*Locus*	*Inventory No.*	*Kurgan No.*	*Grave*	*Chronology*	*Phase*	*Category*	*Description*	*Material*	*Class*	*RØ*	*BØ*	*Th.*
11, 12	S1-51	46	K8	Funerary chamber	Kura-Araxes I	10	POTTERY	MBW	Clay	Handled jar	12	6.5	0.7
11, 12	S1-51	47	K8	Funerary chamber	Kura-Araxes I	10	POTTERY	MBW	Clay	Bowl	22.5	7.5	1.2
12	S1-47	39	K8	Funerary chamber	Kura-Araxes I	10	POTTERY	MBW	Clay	Bowl	18	6	1.1
11, 12	S1-47	40	K8	Funerary chamber	Kura-Araxes I	10	POTTERY	MBW	Clay	Handled jar	10.5	5.5	0.8
11, 12	S1-48	35	K8	Dromos	Kura-Araxes I	5	POTTERY	MBW	Clay	Handled jar	11	5	0.5
12	S1-48	52	K8	Dromos	Kura-Araxes I	5	POTTERY	MBW	Clay	Bowl	18	9	1.3
11, 12	S1-39	32	K8	Funerary chamber	Kura-Araxes I	4	POTTERY	MBW	Clay	Handled jar	12	7	1.2
12	S1-35	28	K8	Ritual pit	Kura-Araxes I	4	POTTERY	PSW (MBW?)	Clay	Handled jar	10.2	6.5	0.6
14, 15	S1-38	29	K8	Gr I-II	Post-Kura-Araxes	3	POTTERY	PSW	Clay	Handled jar	16.5	15.5	1
14, 15	S1-38	30	K8	Gr I-II	Post-Kura-Araxes	3	POTTERY	BBW	Clay	Handled jar	20.5	14	1
14, 15	S1-38	31	K8	Gr I-II	Post-Kura-Araxes	3	POTTERY	BBW	Clay	Handled jar	14	8.5	1.5
15	S1-37	26	K8	Gr I-I	Post-Kura-Araxes	3	POTTERY	BBW	Clay	Handled jar	23	12	0.9

Wg.	*DØ*	*Ln.*	*Wd.*	*Colour outside*	*Colour inside*	*Colour section*	*Inclusion*	*Decoration*	*Other treatments*
				7.5YR 3/2 dark brown; 7.5YR 4/3 brown	7.5YR 3/2 dark brown; 7.5YR 4/3 brown	7.5 YR 2.5/1 black; 7.5YR 6/1 gray	medium: grit, limestone	Applied	Burnished (outside)
				5YR 5/4 reddish brown; 5YR 5/2 reddish gray; 5YR 2.5/1 black	5YR 5/4 reddish brown; 5YR 5/2 reddish gray	5YR 3/2 dark reddish brown	medium: grit, limestone		Burnished
				2.5YR 6/6 light red; 2.5YR 6/3 light reddish brown	2.5YR 6/4 light reddish brown	2.5YR 6/2 pale red	medium-coarse: grit, chaff, limestone		Burnished
				5YR 6/4 light reddish brown; 5YR 2.5/1 black	5YR 7/6 reddish yellow	5YR 7/6 reddish yellow; 5YR 5/2 reddish gray	medium: grit, limestone		Burnished
				5YR 6/6 reddish yellow; 5YR 6/2 pinkish gray; 5YR 2.5/1 black	5YR 6/6 reddish yellow	5YR 6/6 reddish yellow	medium: grit, limestone		Burnished
				5YR 6/3 light reddish brown; 5YR 5/4 reddish brown	5YR 5/2 reddish gray	5YR 5/3 reddish brown	medium: limestone, grit		Burnished
				2.5YR 5/2 weak red	2.5YR 3/2 dusky red	2.5YR 6/8 light red	medium-coarse: grit, chaff, limestone	Applied	Burnished
				2.5YR 7/4 light reddish brown; 2.5YR 3/1 dark reddish gray	2.5YR 7/4 light reddish brown; 2.5YR 3/1 dark reddish gray	2.5YR 3/1 dark reddish gray	medium-coarse: grit, limestone	Incised	Slip, possibly burnished
				5YR 7/2 pinkish gray	5YR 5/2 reddish gray	2.5YR 5/6 red; 2.5YR 2.5/2 very dusky red	medium-coarse: grit, chaff, limestone		
				GLEY1 2.5/N black	5Y 5/1 gray	GLEY1 2.5/N black; 2.5Y 5/2 grayish brown; 7.5YR 6/4 light brown; 5Y 5/1 gray	medium: grit, limestone		Burnished (outside)
				5YR 2.5/1 black	5YR 3/1 very dark gray		medium: grit limestone	Seal impression	Burnished
				GLEY1 2.5/N black	5Y 5/1 gray	GLEY 1 2.5/N black; 2.5Y 5/2 grayish brown; 7.5YR 6/4 light brown; 5Y 5/1 gray	medium: grit, limestone		Burnished (outside)

Figure	*Locus*	*Inventory No.*	*Kurgan No.*	*Grave*	*Chronology*	*Phase*	*Category*	*Description*	*Material*	*Class*	*RØ*	*BØ*	*Th.*
	S1-51	49	K8	Funerary chamber	Kura-Araxes I	10	OBJECT	Spindle whorl	Bone				
13	S1-51	51	K8	Funerary chamber	Kura-Araxes I	10	OBJECT	Spindle whorl	Bone				
13	S1-47	48	K8	Funerary chamber	Kura-Araxes I	7	OBJECT	Spindle whorl	Bone				
13	S1-51	50	K8	Funerary chamber	Kura-Araxes I	10	OBJECT	Arrowhead	Stone				
13	S1-49	36	K8	Funerary chamber	Kura-Araxes I	10	OBJECT	Bead(s)	Lime-stone				
13	S1-47	43	K8	Funerary chamber	Kura-Araxes I	7	OBJECT	Bead(s)	Lime-stone				
13	S1-38	33	K8	Gr I-II	Post-Kura-Araxes	3	OBJECT	Dagger	Bronze				
13	S1-37	23	K8	Gr I-I	Post-Kura-Araxes	3	OBJECT	Bead(s)	Stone				
13	S1-37	24	K8	Gr I-I	Post-Kura-Araxes	3	OBJECT	Clasp	Bronze				
18	S29-12	53	K7		LBA-EIA		POTTERY	GRW		Jar	9.5		0.7
18	S29-12	54	K7		LBA-EIA		POTTERY	GRW		Hole-mouth jar	17		0.8
18	S29-12	55	K7		LBA-EIA		POTTERY	GRW		Base		11	0.5
18	S29-12	56	K7		LBA-EIA		POTTERY	GRW		Jar		12	0.7
18	S29-12	57	K7		LBA-EIA		POTTERY	GRW		Jar	18		0.9
18	S29-06	41	K7		Late Antique		POTTERY	CRW		Bottle	9	12	0.7
18	S29-06	42	K7		Late Antique		POTTERY	PSW		Plate	17		9.6

Wg.	*DØ*	*Ln.*	*Wd.*	*Colour outside*	*Colour inside*	*Colour section*	*Inclusion*	*Decoration*	*Other treatments*
13.9	4.4								
11.9	4.1								
14.9	4.4								
2.4		4.8	1.3						
		19	4.6						
				5YR 2.5/1 black	5YR 4/1 dark gray	5YR 5/1 gray	medium: limestone, grit	Incised	Burnished (outside)
				5YR 4/2 dark reddish brown; 5/3 reddish brown	5YR 5/4 reddish brown; 2.5YR 5/6 red	5YR 4/1 dark gray; 5YR 6/2 pinkish gray	coarse: limestone, grit, chaff	Incised	Burnished
				5YR 2.5/2 dark reddish brown	5YR 5/1 gray	5YR 5/1 gray; 5YR 4/2 dark reddish gray	medium: grit, limestone, sand		
				5YR 3/2 dark reddish brown; 5YR 2.5/1 black	5YR 5/1 gray	5YR 5/2 reddish gray; 5YR 5/4 reddish brown	medium: grit, limestone	Incised	
				7.5YR 3/1 very dark gray; 7.5 YR 4/3 brown	7.5YR 4/2 brown; 5YR 5/4 reddish brown	7.5YR 4/1 dark gray; 5YR 5/4 reddish brown	coarse: grit, limestone, chaff, sand	Incised	Burnished
				10YR 7/3 very pale brown	7.5YR 7/6 reddish yellow	7.5YR 7/6 reddish yellow	medium: basalt, limestone, sand		Slip
				5YR 6/6 reddish yellow	5YR 6/6 reddish yellow		medium: limestone, basalt, sand		Self-slip

CONNECTIVITY ON A ROMAN-SASANIAN FRONTIER
Route systems in the Upper Tigris river valley in South-East Turkey

Rodolfo BRANCATO*

Abstract

Southeastern Anatolia was one of the regions in which the Roman and Eastern empires fought for centuries for supremacy. In Late Antiquity, the Roman/Sasanian border shifted from the Euphrates River to the Tigris River: the upper Tigris River valley was thus embedded in the Eastern Roman "limes". Changes in settlement patterns that occurred in the fourth century AD seem to confirm the limit of the Roman control of the area west of the Batman River, one of the tributaries of the Tigris River in its upper course. I will discuss how regional and local routes, settlement patterns, rural landscapes and military installations changed in this portion of the Roman/Sasanian borderland after AD 363: this may help for a better understanding of the local landscape through the inspection of the relationship between connectivity and borderland organization on the edges of empires.

INTRODUCTION

The cultural characteristics of frontier land in antiquity such as connectivity are believed nowadays to have been strong enough to overcome political and geographical barriers; as well as to cross boundary lines once thought impenetrable – i.e. those of a cultural, political, or religious nature[1]. The Frontiers of the Roman Empire have often been drawn as simplistic linear borders, which fails to represent their dynamic nature: in reality they were comprised of multiple, and often overlapping, military, cultural or economic landscapes that can range along a continuum between physical barriers and conceptual boundaries. This made them important zones of cultural contact where identities and political and social affiliations were formed and reformed at different scales and over time[2]. Recent work

* Rodolfo Brancato, University of Catania; the fieldwork was carried out within the Hirbemerdon Tepe Project (2003-2015) led by Prof. N. Laneri (University of Catania) – to whom I address my gratitude – in collaboration with the Ege University of Izmir and the Archaeological Museum of Diyarbakır.

[1] The concept of connectivity, which is to say the low-level interaction between microregions over the *longue durée* (see Horden, Purcell 2000), encompasses both cultural and economic issues: cross-cultural interactions in eastern frontiers usually resulted in the diffusion of literary, artistic, and linguistic traditions, as well as scientific and technological innovations: see Bowersock 1990.

[2] Literature on Roman frontiers traditionally focuses on four basic areas: (1) the concept of background knowledge, defined as geographical knowledge, or how Romans thought about their world in terms of geography and limits – an area in which recent studies of Roman theoretical and historical geography are to the

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on the eastern frontiers of the Roman Empire has deepened our understanding of military boundaries in these borderlands, where the Roman and Sasanian Empires appear to have excelled at utilizing and augmenting natural features, or constructing elaborate defensive systems to limit or constrain movement: however, these military frontiers often represent only one element within a complex frontier zone[3]. This paper seeks to emphasize that the study of these frontiers is essential to a balanced understanding of the Roman Empire and its relationship with its neighbours. In order to achieve this aim, the relationship between settlement dynamics and the communications network in a key region of the eastern Roman border, the upper Tigris river valley, is considered. Analysis of the local settlement and routes assists our understanding of how the local landscape changed according to its use as frontier land between the Roman and Sasanid Empires in the first half of the first millennium AD. Indeed, on the basis of the distribution of sites dating to Late Antiquity and the Byzantine era, it is possible to construct a better understanding of the ancient road network of the area, its basic functioning and the impact of the frontier's movement. The research is based on the results of field work carried out by an Italian project directed by Prof. Nicola Laneri (University of Catania) until 2015 in the modern-day district of Batman, specifically on the site of Hirbemerdon Tepe and its surrounding territory[4]. In order to achieve a complete landscape analysis, the legacy data of numerous rescue projects carried out in the area in the last three decades after the decision of the Turkish government to build a large dam near the village of Ilısu have also been taken into account: the reservoir largely obliterated the territory running from the village of Bismil to the wide valley of Cizre[5]. Due to the heterogeneity of the available topographic data, it was necessary to organize the geodata storage for creating a relational database of the sites with a GIS interface. To achieve this, the complete gazetteer of the archaeological sites was digitized, after the appropriate control of each reported location recorded by previous research through surveys and plotted in maps, in the light of historical and modern cartography. The new analysis of the ancient topography of the area is based also on the analysis of available satellites (Google and Corona) and aerial images for the area (Fig. 1).

The upper Tigris River region and the Roman/Sasanian frontier land

Archaeological research focusing on the Roman phase of the upper Tigris valley started only recently[6]. By analyzing distribution maps obtained through integrating archaeological

fore; (2) topography and the question of "natural frontiers," or debates over the role of rivers and mountains as literal frontiers; (3) news and information, particularly the dynamics, contexts, and structures of news and information flow in the later Roman Empire; (4) the intangibles of mentalities, worldviews, and ideology and how these related to the ways that Romans viewed their place in the world and any limits to their claims on a portion of it: for a complete review, see Graham 2006, 11-26, with bibliography; also Kaizer, Hekster 2009; Cupcea 2015; for a reassessment on the Roman frontier studies and their contemporary value, see Breeze 2018.

[3] Mitford 2018; Cameron 2019.

[4] Laneri 2016.

[5] For the applied methodology and preliminary results of the Ilısu Dam Project, see Tuna 2011.

[6] Barın, Akın, Şahin 2004; Erim-Özdoğan, Sarialtun 2011

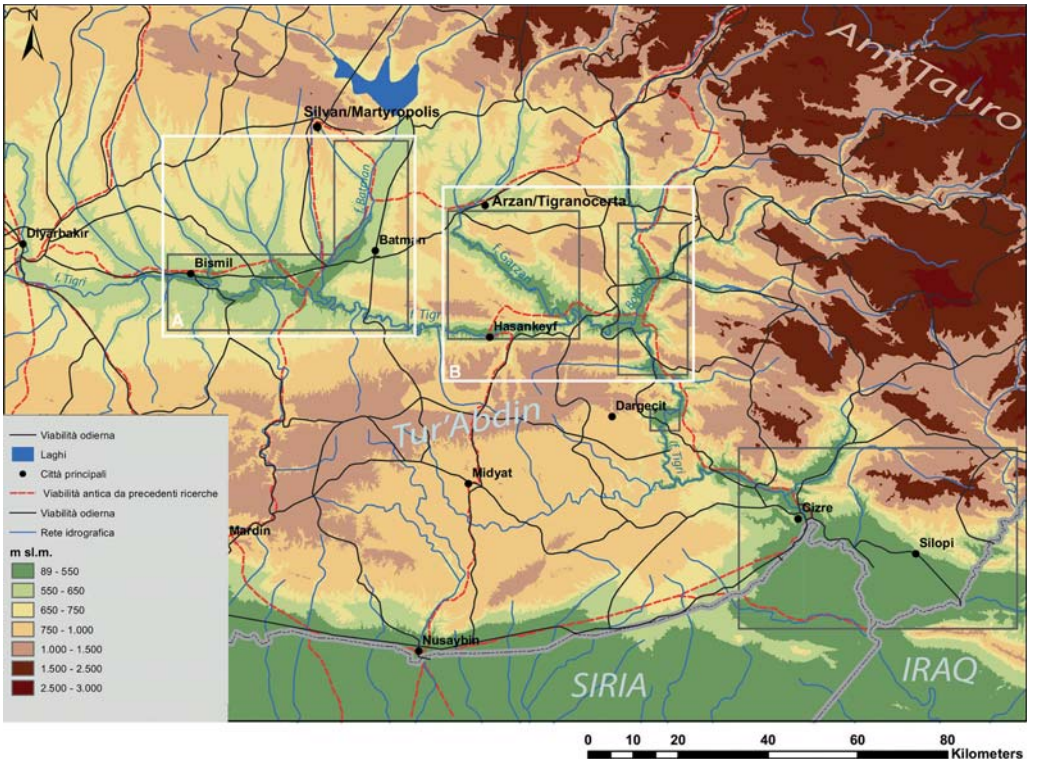

Fig. 1. Turkey, Upper Tigris River Valley region, modern route network and ancient road network suggested by previous research; the areas covered by the reconnaissance are identified in gray.

data from excavations and survey projects carried out in the area[7], it is possible to infer substantial changes in the distribution of urbanized centres, rural settlements and fortified sites occurring between the late fourth and sixth centuries. On the basis of this analysis, we can reach a new understanding of the Roman presence in the valley and the effects that the creation of a new "border" had on the local landscape between the Late Antiquity and Byzantine age[8] (Fig. 2).

Because of its position between eastern Anatolia and Mesopotamia, the upper course of the Tigris River is a "natural" border between important regional powers. Today the valley lies between Turkey, Syria and Iraq; in the period analysed here it marked the transitional zone of the Roman and Persian Empires.[9] Therefore, shaped by its geography, local history

[7] Reference stratigraphical data for the study of Roman common ware for the upper Tigris River region is in Uygun 2014, and Ökse 2017.

[8] Research on the Eastern border of the Roman Empire started thanks to the contribution of Ward-Perkins 1966; the research on Eastern *limes* mainly focused on the Euphrates river area (see French, Lightfoot 1966; Whittaker 1989; Whittaker 1993; Whittaker 1994; Hanson 1989; Isaac 1992; Wheeler 1993; Millar 1993; Brun, van der Leeuw, Whittaker 1993; Kennedy 1996).

[9] The landscape of southeastern Turkey in the region from Diyarbakır to Cizre is determined by the course of the Tigris River: the area is the ideal intersection of the Caucasus, southeastern Anatolia and northern Mesopotamia.

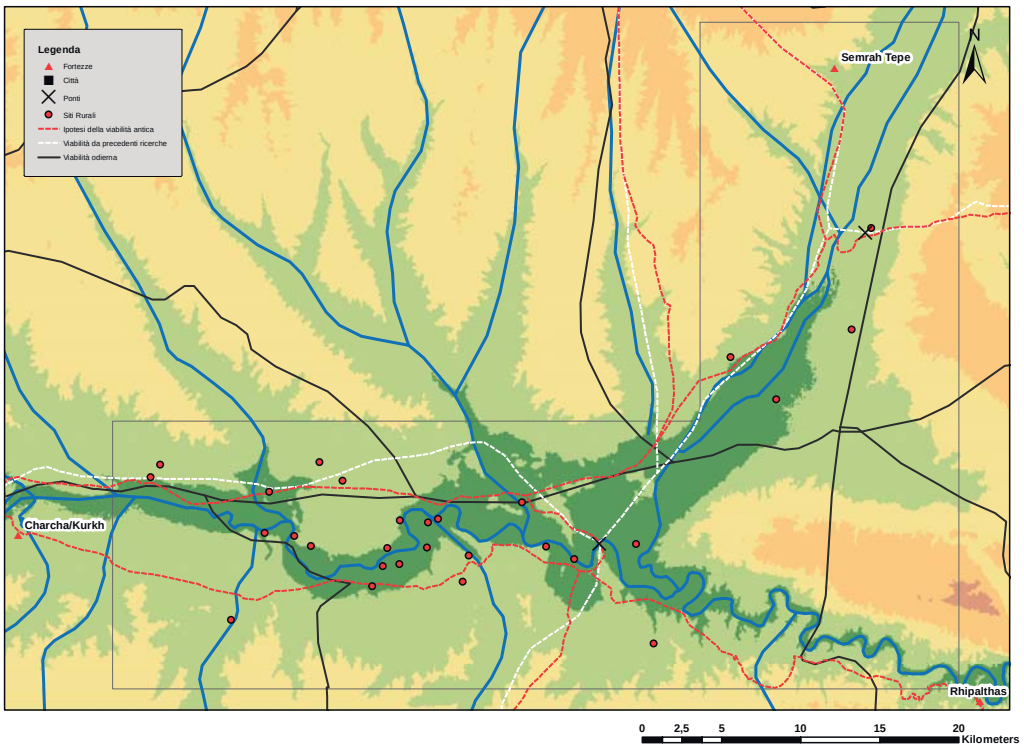

Fig. 2. Turkey, Upper Tigris River Valley region, area A.

was directly and indirectly linked to developments in the neighboring global political entities, whose interaction followed lines crossing the upper Tigris from east to west and from south to north. The valley was naturally affected by the expansion of Rome to the east[10]. The province of Mesopotamia, established in the Severan age, was bordered to the north by Sophanene and Arzanene, Armanian satrapies included among the Trans-Tigritane provinces [11]. In the Late Roman period, the upper Tigris region was included in the territories of these satrapies, separated by the river *Nymphius*, today's Batman Su[12]. Following the surrender of Jovian in the aftermath of the death of Julian (363), a new division of the Trans-Tigritane provinces was established: in addition to the transfer of the strategic fortresses of Nisibis and Singara and other minor forts, including Tille, Arzanene

[10] The eastern border of the Roman Empire moved permanently east of the Euphrates after the campaigns of Septimius Severus (194-195, 197-198 AD): for the Euphrates as a hidden frontier of the Roman Empire, see Mitford 2018; for a summary of the studies on the Euphrates, see Mazza 2005, 11-116.

[11] Cassius Dio, LV, XXIV. For a historical overview on Trans-Tigritane Provinces (*i.e.* Arzanene, Corduene, Intilene, Sophene, Sophanene and Zabdicene), see Lightfoot 1982. For Sophanene, Gordyene and Arzanene in particular, see Marciak 2017. On diplomatic relations between the Roman and Sasanian Empires, see Millar 1982; Millar 1993; Mazza 2005.

[12] Procopius, *Aed.,* III, 2; *De bello Pers.* I, 6.

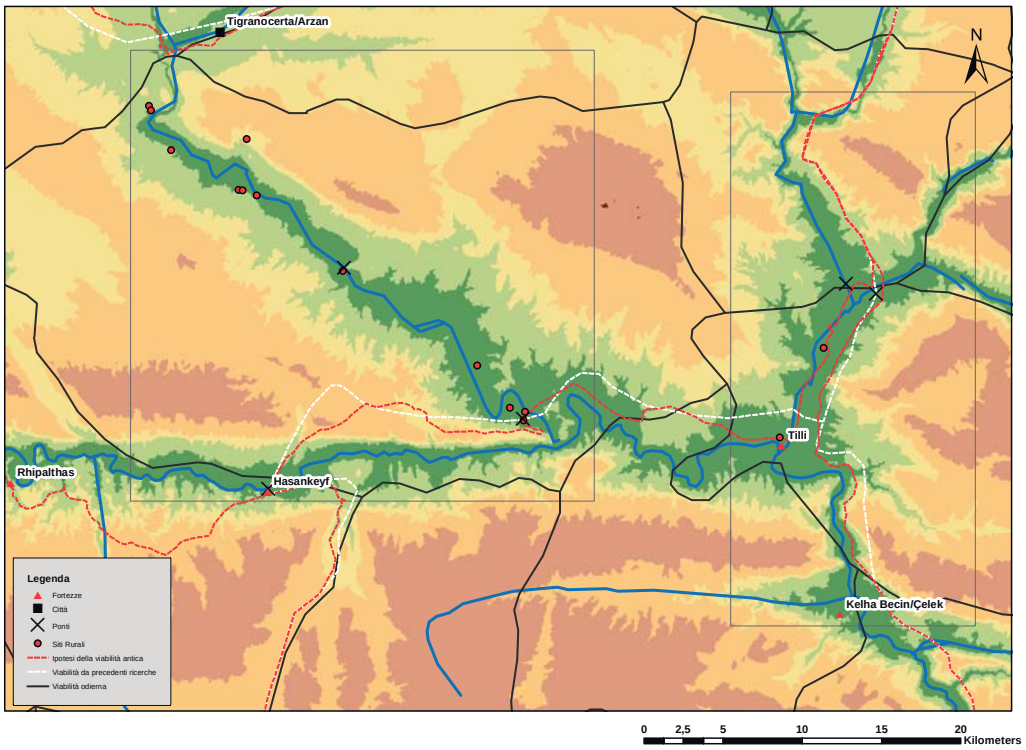

Fig. 3. Turkey, Upper Tigris River Valley region, area B.

definitively passed under Sasanid control[13]. Thereafter, the upper Tigris River became a frontier land between Rome and Persia, and Batman and Tigris rivers marked the limits of Roman and Sasanian hegemony in Asia.

In the upper valley Roman material culture is attested from at least the first century: the archaeological sites of Çattepe and Ilısu Höyük were *castra* whose earliest Roman material may point to a Severan phase[14]. During the fourth century the abandonment of rural and military settlements of the area is attested, particularly to the east, along the Botan River and in the Cizre valley. These changes in settlement dynamics seem to confirm the traditionally proposed reconstruction of the limits of Roman and Sasanid control starting from AD 363.[15] Similarly, archaeological data obtained from the reconnaissance survey project indicate depopulation also occurred in the lands beyond the Batman in Sasanid hands[16] (Fig. 3). By contrast, at the same time, settlement patterns seem to change

[13] Ammianus, XXV, 3, 1-23. For the period from Julian's death to the division of Armenia between Rome and Persia in 387, see Mazza 2005, 119-168.

[14] Ökse 2017, 371. For an architectural typology of Eastern Roman *castra*, see Gregory 1996.

[15] Brancato 2017, 75-78; Brancato 2018.

[16] Wilkinson, Tucker 1995; Algaze, Hammer, Parker 2012, 39-40; Palermo 2016, 286-289.

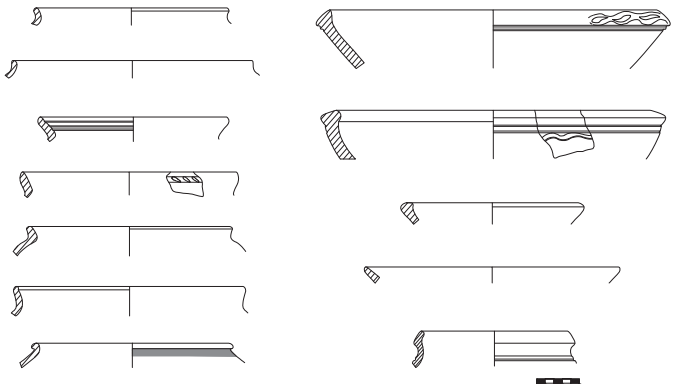

Fig. 4. Turkey, Upper Tigris River Valley region, Late Roman and Byzantine Common Ware.

in Sophanene, as the increased number of rural settlements located on the fertile alluvial terraces on the northern banks of the Tigris seem to attest (Fig. 4). Probably, Martyropolis (modern Silvan) was the fulcrum of the new regional structure: the city was founded by Maruthas (383-420) in 410[17], a bishop who had obtained permission from Yezdegird I (399-421) to bring with him the relics of martyrs from Christian cities that had passed into the Sasanid Empire[18]. In the time of Justinian I (527-565), the city became capital of the province of the Fourth Armenia[19]: the fortification program which changed the city and territory (528), as witnessed in the writings of Procopius and Malalas, was probably aimed at ensuring the protection of the inhabitants of the villages scattered in the valley[20] (Fig. 5).

Regional and local communications in a frontier region

There have been numerous attempts to trace the boundary between the Roman and Sasanid empires on the basis of the alignments of fortified cities and fortresses identified during the reconnaissance of the area by aerial imaging[21]. However, the debate of the last decades has moved from the traditional conception of a *limes* as a hard border line, to one

[17] For more on Martyropolis (*Maiferqat* in early Syrian sources, *Mayyāfaraqīn* in Arabs texts), see Sinclair 1989, 287; see also Minorski 1991.

[18] For Maruthas, bishop of Martyropolis, see Marcus 1932; Minorski 1991, 920-921; Drijvers 2008; for an overview on ancient sources on Maruthas, see Greatrex, Lieu 2002.

[19] Procopius, *Aed.,* II, 15, 1-26. For an analysis of Procopius' description of Martyropolis, see Whitby 1984; on city walls, see Gabriel 1940.

[20] Procopius, *Aed*., III, 1, 27-29; Malala, *Chron.,* XVIII, 10. Archaeobotanical analyses conducted in numerous contexts of the region seem to indicate the *Triticum* (*aestivum* e *durum*) as the most common crop of the Byzantine period; traces of agricultural production for the Late Roman and Byzantine phases were identified at Salat Tepe (Ökse, Alp 2011, 800-801), Ziyaret Tepe (Matney 2015, 163-165); Zeviya Kavla (Ökse 2017). For a general analysis of the Byzantine frontier, see Decker 2007.

[21] Poidebard 1934; Dillemann 1962; Comfort 2017.

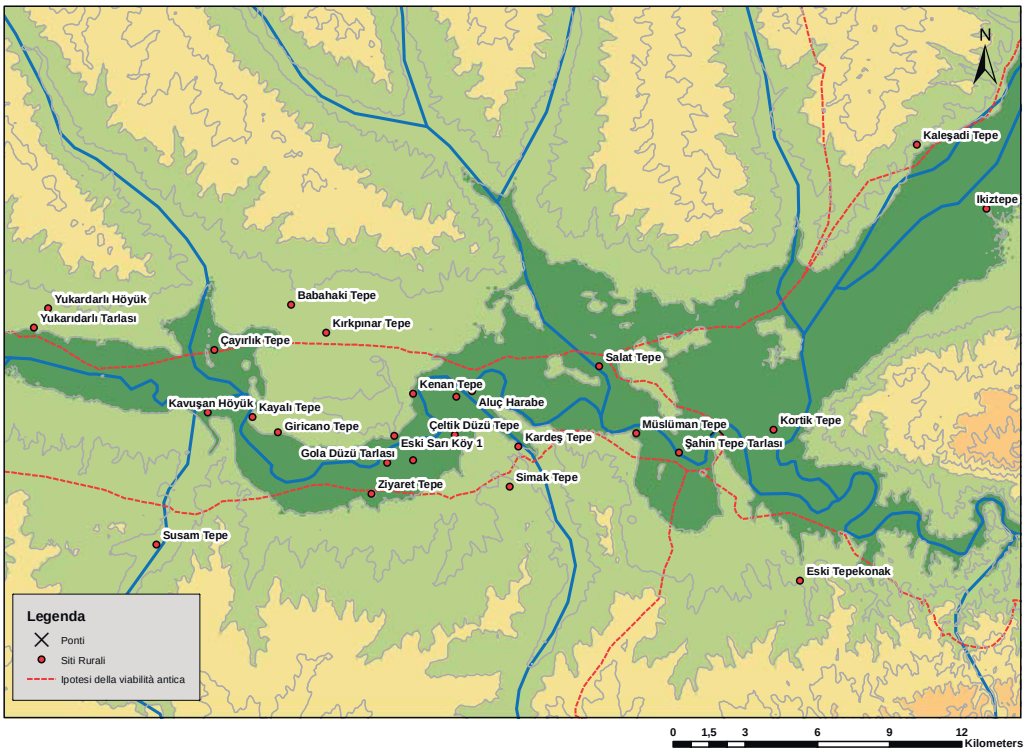

Fig. 5. Turkey, Upper Tigris River Valley region,
rural settlements at the confluence zone with the Batman River.

of a frontier zone of the Roman empire, in relation to the administrative and military activities that took place in it[22].

The Romans' need to control the movements of foreign armies, local populations and nomadic tribes chimes with the etymological origin of *limes* as a "military road"[23]. The close relationship between road lines and military installations has already been observed by Oates, who noted the placement of military installations considered part of the *limes* along the most important routes of northern Mesopotamia[24]. Later, Eadie considered the defense of the Eastern Roman border in line with the institution of the *Strata Diocletiana*, a defence system based around *praesidia* and *castra* distributed in the area running between the Euphrates and the Gulf of Aqaba[25]. In a recent paper, A. Comfort analyzed the fortified

[22] The meaning of the term as a border district dates back to the end of the third and the beginning of the fourth century AD, the age of the great military reforms of Diocletian and Constantine: see Isaac 1988; Mazza 2005, 146-147. For Diocletian's military reforms, see Ammianus, XXIII, 5, 1-2; Malala, *chron.,* XII; Zosimus, II, 34, 1; for Costantine, see Aurelius Victor, *de Caes.,* ILI, 12. For the Roman frontiers from Diocletian to Justinian, see Lewin 2009.

[23] For the etymology of *limes*, see Isaac 1988; see also Oldenstein 1995.

[24] Oates 1968, 9.

[25] Eadie 1966, 72-82.

landscape of Tur ᶜAbdin, looking at the relationship between the positions of fortified Byzantine sites in the context of the defense-in-depth of the Roman-Sasanid border agreed between the two empires[26]. This approach does not seem to take into account the survey data now available for the local Late Roman and Byzantine landscapes: the role of fortresses was likely not just to control roads and ensure the safety of rapid army movements, but also to ensure the defense of rural settlements, both from Sasanian invasions and from raids of nomad Arabs[27].

The focusing of the debate on *limes* has greatly affected the reconstruction of the ancient road system of northern Mesopotamia, Many of the researches have been based on attempts to identify the toponyms of the main stations and cities known from ancient sources[28]: a typical example of this tradition is the map of ancient Mesopotamia proposed by H. Kiepert, an overlay on Ottoman Turkey of the road network represented in the *Tabula Peutingeriana*[29]. Research on the road network of upper Mesopotamia is summarized in the works of T.A. Sinclair (1989) and A. Comfort (2009); their major contribution has been to propose a first gazetteer of cities and ancient fortified sites and elements of the road network that have been preserved in the area between Turkey, Syria and Iraq[30]. Military cartography produced in Turkey between the end of the 19th and the beginning of the 20th century by foreign armies stationed there is of great help for the study of ancient routes; it allows us to see the organization of the landscape before the advent of the Turkish Republic[31]. The cartographic basis used for the analysis used here is a corpus of maps (scale 1:25.000, 54 sheets) of the upper Tigris (2007), drawn up in preparation of the construction project for the Ilısu dam, together with 1:50.000 scale maps drawn by the Soviet editorial office (1980).

The local road network has changed in recent decades, and the construction of the dam is already totally re-shaping the local landscape. Therefore, the historical maps have been geo-referenced: mostly available in raster format, they have been implemented in a GIS environment, in order to overlay the archaeological data known today on the Ottoman age road system. Among the most useful examples of 19th century cartography are the 1:500,000 scale map by A. Socin (1881); the 1:3,000,000 scale map by H. Kiepert (1885 [also the author of a famous map of the ancient world in four sheets to 1:2,200,000), one

[26] Comfort 2017, 187; for the Grand Strategy theory, see Luttwak 1976.

[27] Isaac 1992, 251; see also Lo Cascio, Tacoma 2016.

[28] A general and diachronic analysis of the regional route networks is in Marro 2004.

[29] Kiepert 1903.

[30] Sinclair 1989; Comfort 2009.

[31] Historical cartography is of great assistance for ancient topographic research. The region is characterized by the persistence of the roadways, because substantial landscape taphonomic processes here began only in the early 20th century after the decline of Ottoman Empire, for political and economic reasons, such as intensive tobacco and cotton agriculture and oil extraction. Modern cartography is useful for its contribution of toponymy: the establishment of the Turkish Republic (1923) changed the local toponymy, deliberately obliterating the Aramaic substratum that had shaped the local landscape for centuries. On the contribution of military cartography to research in the Near East, see Espenhorst 2016. For persistence and resilience of past landscapes, see Redman, Kinzig 2003.

of them dedicated to Syria, Armenia and Mesopotamia (1910)[32]]); the 1:250,000 scale paper compiled by F.R. Maunsell (1916); and the map of Mesopotamia in 1:400,000 scale, in 24 sheets, compiled during the First World War by German cartographers (1918)[33]. The scale is the main problem in the use of these maps for topographic research: in fact, even in the most recent contributions on the ancient road network the scale employed is unsuitable for the representation of elements such as bridges or stretches of road[34] (Fig. 1).

The ancient communications network of the upper Tigris valley – represented in the *Tabula Peutingeriana*[35] – pivots on the cities of Amida and Tigranocerta: however there is no agreement on the identification of the toponyms of the *stationes*[36].

Regarding the roads represented in the *Tabula*, the only route identified is that connecting Amida to Isumbo, a city located on Lake Van. After the crossing of the upper valley of the Tigris River in the west-northeast direction, the ancient route can be deduced on the basis of the position of bridges dating from the late antique age to the Byzantine ages[37]. Partially following a modern street, after crossing the river at the Ongöz bridge (2.3 km south of Diyarbakır), the road continued on the northern bank to the confluence with the Batman, and then diverted to the north, running along the river; the road then proceeded eastward, passing Batman across the Harap bridge, towards Tigranocerta (mod. Arzen). It then proceeded in a northwesterly direction through the Taurus, towards Armenia (Fig. 2). Late antique and Byzantine rural sites identified during reconnaissance survey projects seem to concentrate in relation to this axis. There is a trace of the road both in the H. Kiepert map and in the representation of the ancient network recently proposed by A. Comfort[38].

The southern bank of the river was characterized by some important Roman settlements such as Üçtepe – identified with Charcha – and Ziyaret Tepe, in addition to numerous rural sites concentrated nearby the confluence of Tigris and Batman rivers. On the basis of H. Kiepert's analysis and the available topographic maps, it is possible to deduce the existence of a route locally connecting the Late Roman sites. Heading east, the hypothesized path went through the hills near Eski Tepekonak in the direction of Cepha, touching the fortress of Rhipaltas (Fig. 3). Another ancient bridge is located near the village of Sahinli, a village at the confluence of Tigris and Batman: this illustrates the close economic

[32] Kiepert 1855; Kiepert 1910. Raster files of the maps were found in the cartographic repertoire available on the Center for Ancient Middle Eastern Landscapes (Oriental Institute of Chicago) (https://oi-idb.uchicago.edu/) and in the National Library of Australia (https://trove.nla.gov.au/).

[33] *Kriegskarte des Deutschen Heeres von Mesopotamien*, *Kartographische Abteilung der Königlich-Preußischen Landesaufnahme,* Berlin 1918. Espenhorst 2016, 119-120, fig. 25.

[34] Comfort 2017, Figs. 7-9.

[35] XIII, *f.* XI. Respectively, Amida and Tigranocerta are identified with *Ad tigrem* and *Triganocarten*, see Miller 1916, c. 748.

[36] See Talbert 2000, TKY, 89 E3. No other ancient itineraries cover the region: in particular, there are no references to the road network that crossed the valley in the *Itinerarium Parthicum* of Isidore of Charax, whose path follows the Euphrates route, and then passes on the Tigris through the Nahr Malka (*Itin. Part*. I, 22), nor in the later *Itinerarium Egeriae.*

[37] The track is indicated in Talbert 2000, n. 37, f. 89; Comfort 2009.

[38] For the identification of Tigranocerta with the Arzan site, see Marciak 2014.

relationship between the two banks of the rivers, characterized by intensive agriculture, as is likely in ancient times[39].

During the course of the many wars fought for the control of Armenia in the fifth century, Martyropolis was often both the base of Byzantine military efforts and the goal of Sasanid retaliation. The rapid movements of the armies described in the sources were possible thanks to the efficient local road network[40]. Two roads – respectively running north-southeast and north-south from Martyropolis – crossed Sophanene. The first, control of which was guaranteed by the fortress of Semrah Tepe[41], passed the Batman on the Harap bridge, joining the road that headed at Tigranocerta[42]. The other ran to the south and, joined a road that skirted the western bank of the Batman, headed for the Kaprüköy bridge, 6 km southeast of the confluence with the Tigris River: it led to Mardin through the heights of the Tur ᶜAbdin, an axis guarded by the fortresses of Hisarkaya (Isphrios) and Savur (Tzauras)[43].

Another fulcrum of the network of the upper Tigris River valley was *Cepha*[44], seat of the prefect of *Legio II Parthica* after the events of 363[45]. One road probably connected Cepha to Nisibis until the fourth century, to go by the ruins of the Roman bridge: in the historical cartography of the region there are traces of a road leading from Cepha to the south, in the direction of Mydiat (Fig. 3).

After passing Cepha, the road reached Tille, and from there it continued to the north, along the eastern bank of the Botan[46]. Another road arrived at Tille, coming up the Tigris probably from *Castra Maurorum*, passing near *Bezabde*. Going up the river Botan, it passed through the Taurus, towards Armenia[47]. After the conquest of Bezabde (360), in the Syriac sources we have traces of the road traveled by the Sasanian army towards *Virtha*, a fortress that Shapur II tried to conquer[48]. Two fortresses were located on the southern

[39] On the roads of the upper Tigris valley in the Ottoman era, see Hammer 2014. The cultivation of fertile alluvial terraces is well known in the modern age since at least the seventeenth century, but concentrated on the northern bank; see van Bruinessen 1988, 29-35.

[40] Zach., *HE,* IX, 5: during the 531 campaign in Armenia, the Sasanids reached Martyropolis by crossing the Tigris in the district of Attachas (Th. Sim., I, 14, 1-10); in 585, the Sasanid army arrived in the valley through the Tur ᶜAbdin, and after reaching Martyropolis, they quickly returned to Persian territory; Martyropolis is the base for the raids against nearby Arzanene conducted by Comentiolus, *magister militum per Orientem* appointed by Maurice (Th. Sim., III, 5, 11-16; Evagr., *HE,* VI, 14).

[41] Algaze, Rosenberg 1991, 141; fig. 2b, n. 123; Semrah Tepe, where a coin dating back to the reign of the emperor Phocas (607-608 AD) was found, is identified with the city of Shemkhart: Ioan. Ephes., *HE*, VI, 26, 35; Georg. Cypr., 48, 944; Men. frg. 26.5; Th. Sim., III, 18, 1-2; see Marciak 2014, 38.

[42] Comfort 2017, figs 7-8.

[43] Comfort 2017, 194, 196-197, 218; Marciak 2017, 109.

[44] E. Honigmann proposed the identification of Hasankeyf with Σίαι, a toponym present in Ptolemy's catalog (*Ptolem.*, V, 12, 10); in the Tabula is *Sitae*, whose marked distance is approx. 25 miles; see Honigmann 1935.

[45] *Not. Dign.,* XXXVI, 30; Georg. Cypr., 47, 933. See Uluçam 2013.

[46] Lightfoot 1986, 519; Comfort 2009, 27, 69, 116-125; Marciak 2017, 106.

[47] Comfort 2009, 116-125; Comfort 2017, fig. 9.

[48] For the Syriac text translated into English, see "The Acts of the Martyrs of Bezabde", in The Martyrdom of the Prisoners of War translated by Bedjan, Acta Martyrum et Sanctorum II, Paris 1890-7, 316-327 in Dodgeon Lieu 1991, 215-216.

Fig. 6. Turkey, Upper Tigris River Valley region, pylon of the Roman bridge of Hasankeyf (after Gabriel 1940).

bank of the Tigris, Cepha and Riphaltas[49]. From Ammianus we know about the rapid movements of the army of Shapur after the fall of Amida in the direction of Bezabde[50], but we do not have enough elements to discuss the existence of such a route on the southern bank of the Tigris River, because the identification of *Virtha* is not clear[51].

The Tigris River is the other landscape element to consider in order to understand the ancient road system of the area[52]. Locally, the flow of the river increases at the confluence with the Batman; the meandering course issues from the heights north of Cizre, where navigation becomes very difficult due to the rapids at the narrow gorge that the river crosses[53]. In the ancient sources there are numerous testimonies about the use of the river as a way of transporting local agricultural produce, through the use of *kelek,* flat-keeled boats, employed since prehistoric times [54] (Fig. 6). Interesting too are the reports of travelers who visited the valley between the seventeenth and nineteenth centuries: Evliya Çelebi (1655) told of his trip from Diyarbakir to Van, partly carried out on a barge until

[49] Dillemann 1962, 227; Comfort 2009, 323.

[50] Ammianus, XX, 11, 4-25.

[51] Ammianus, XX, 7, 17. For the identification of Virtha/Birtha with Makedonopolis (today's Biredjik, on the Euphrates River), see Cumont 1917; Comfort 2009, 287. See also Talbert 2000, f. 89: the site labeled as "Birthon/Virta" is where H. Kiepert marks "Mirdon", the Ottoman toponym of Hirbemerdon Tepe, the site excavated by the Italian mission, and whose stratigraphy indicates a hiatus between the Achaemenid age and the early Middle Ages: the survey in the area has identified, near Eski Tepekonak, the site on the basis of the ceramic material found on the surface as a rural site of the Hellenistic age (see Brancato 2016).

[52] Ammianus XXIV, 1, 15; XXXIII, 6, 20: "Onam et Tigridem […] navigeros fluvios". The great prehistoric and protohistoric civilizations that developed on its banks benefited from the navigability of the Tigris River: during the Assyrian age, the river was the rapid access route to northern Mesopotamia, useful both for military (King Sennacherib went up the river with a fleet) and economic purposes (it is well known that the transport of the large sculptures for the palaces of Nineveh took place via the river: see Briant 2002; Radner 2006).

[53] Doğan 2005; Radner 2006, 274.

[54] Sağlamtimur, Ozan 2018. For a typology of ships in the Middle East, see Agius 2008.

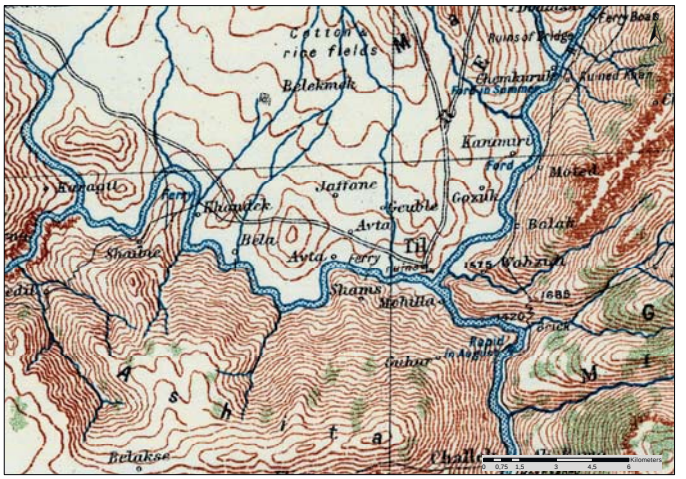

Fig. 7. Turkey, Upper Tigris River Valley region, indication of the ferry stops near Til/ Tille, modern Çattepe (detail from British War Office Map of Eastern Turkey, 1915: sheet 25, Mardin).

the confluence of the Tigris with the Batman[55]. Also Ali Bey (1884) – an official of the Ottoman empire going to Baghdad – left Diyarbakır on a kelek: he noted that it took four days of navigation to reach the confluence (Fig. 7)[56].

Herodotus had also described these types of boats made of wood and animal skins, useful on the Tigris stream, but not so much to climb the river: the return to Armenia, from the south, was done by donkey[57]. For the hypothesized existence of river ports on the Tigris, a particularly interesting detail comes from Xenophon: in his *Anabasis*, he described the city of Opis as a busy port, destination of the vessels that conveyed the agricultural production of the region to the city[58]. The use of Tigris River as a north-south axis is well attested also in Roman sources. During Trajan's Parthian campaign (114-117), his advance against Adiabene was stopped because the materials need for a bridge across the river were impossible to obtain: in order to overcome the problem, the emperor ordered the construction of a fleet near Nisibis, where wood was available north of the city from the forests of Tur 'Abdin: the boats, similar to pontoons, were transported to the river on wagons, because they have been built in such a way that they could be dismantled and then reassembled again[59].

Ammianus' description of the fleet amassed by Julian for his Persian campaign is also well known; it included simple boats and barges, cargo boats and warships, and ships for the preparation of temporary bridges. The fleet arrived on the Tigris from the Euphrates, passing through the Nahr Malka, the waterway that connected the two rivers[60]. As late as

[55] van Bruinessen 1988, 471.

[56] Ali Bey 1898, 24-25; on the river route from Diyarbakır to Baghdad, see Ceylan 2011, 28.

[57] Herodotus, I, 194.

[58] Xenophon, *Anab.* I, 7, 15.

[59] Cassius Dio, LXVIII, 26; Bennet 1997, p. 201.

[60] Ammianus, XXIV, 1, 4; XXXIII, 3, 6: "Dumque hos adloquitur, Xerxis illius potentissimi regis instar, classis advenit tribune Constantiano cum comite Lucilliano ductante, quae latissimum flumen Euphraten artabat, in qua mile errant onorariea naves ex diversa trabe confectae, commeatus abunde ferentes et tela et

Fig. 8. Turkey, Upper Tigris River Valley region, Çattepe (Tille): the arrow indicates the position of the structure identified as a tower (after Sağlamtimur, Ozan 2018).

the tenth century, the upper valley was included in a system of river ports including Diyarbakır (Amida), Hasankeyf (Cepha), Tell Fafan, Mosul and Baghdad: Tell Fafan has recently been identified with Çattepe, a strategic site in the Islamic age due to its position at the confluence of the Botan and Tigris[61].

Although there are no direct attestations in support, it cannot be doubted that the Tigris River was also used as a means of communication and transport between Late Antiquity and the Byzantine age. In this regard, the discovery of a tower of 8.5 m diameter on the southwest side of Çattepe, a fortified site of late antiquity identified with Tille is very interesting[62] (Fig. 8). The thickness of the double-curtain walls, the internal mortar work (2.5 m thick) and the strategic position on the Tigris river at the confluence with the Botan establishes its function (Fig. 9). In fact, although it is not possible to clarify whether the structure was part of a more articulated defensive system that encircled the settlement on the southern slope, it seems reasonable to interpret it as the base of a tower with control functions that rose up, as Ammianus writes, *in modum Phari* on the Tigris. The reference is to a passage where the historian, describing the layout of the territory of Ctesiphon, indicates that at the entrance of the city on the Nahr Malka, which lapped it, there was a tower that rose like *the* lighthouse, evidently referring to the lighthouse for antonomasia, that of Alexandria[63]. The semi-circular structure brought to light at Çattepe can be compared to the towers of the first phase of the citadel of Diyarbakır[64]. From Çattepe is also known also the discovery of a stone cleat, from a Late Antique layer, an element

obsidionales machinas; quinquaginta aliae bellatrices totidemque ad conpaginandos necessaria pontes". On the canalization works in Mesopotamia, see Wilkinson 2003.

[61] Sağlamtimur, Ozan 2018, 24.

[62] The structure was identified as a Roman cistern, then used in Early Medieval Period as a pier in the river port of Tell Fafan (Sağlamtimur, Ozan 2018, 15).

[63] Ammianus, XXIV, 2, 7. In addition to the tower of Ctesiphon, there are numerous cases of towers located at the mouth of canals: for an overview and related bibliography, see Felici 2016, 46-47.

[64] For the city walls of Amida, see Assénat 2015.

Fig. 9. Turkey, Upper Tigris River Valley region, Çattepe (Tille), plan of the structure (after Sağlamtimur, Ozan 2018).

that attests at least at the customary use of boats for the period[65]. Again Ammianus, in his narration of the siege of Amida by Shapur (360), described a tower of the city fortifications, indicating its position above the river Tigris[66], evidently considered, like a road, an element of the territory over which to ensure control. Another tower juxtaposed to a river was identified during the surveys carried along the Ramdeka stream, a tributary of the Batman. On the site of Başkale, today obliterated by an artificial basin, the existence of a ruined tower was noted near the river[67]. These indications of the relationship between towers and riverine traffic could lead us also to consider the existence of a capillary control system of fluvial ways in Byzantine times: however, due to the complexity of the matter and the fragmentary nature of the available data, further investigation will first be necessary.

Conclusions

The data now available on the upper Tigris valley between Late antiquity and Byzantine age enriches our understanding of the eastern frontier of the Roman empire. The integration of archaeological and topographic data allows us to partially reconstruct the complex local landscape. In order to develop a more nuanced understanding of the interactions of the Roman and Sasanian empires with communities within and beyond their frontiers it is necessary to explore archaeological evidence for the cultural and economic boundaries that existed alongside these military barriers, as well as evidence for the changing nature of these frontiers through time.

[65] Sağlamtimur, Ozan, Fig. 8.

[66] Ammianus, XIX, 5, 4: "In summoto loco partis meridianae murorum, quae despectat fluuium Tigrim, turris fuit in sublimitatem exurgens, sub qua hiabant rupes abscisae ut despici sine uertigine horrenda nonposset". Assénat 2015, 29-48, fig. 3.

[67] Rosenberg, Togul 1991, 243.

The condition of the upper Tigris river valley region frontier land must be considered in light of the effects of the foundation of Martyropolis in 410, a fortified city where the inhabitants of the numerous rural settlements probably sought refuge during the periodic invasions of enemies[68]. The Tigris River and its tributaries were probably part of the system that conveyed local agricultural production to Martyropolis, Amida and Cepha, as the extreme proximity to the river banks of the rural settlements makes it possible to infer[69].

Therefore, on the basis of the data considered in this analysis, a new image of this frontier land seem to emerge: after the drastic impact on the local landscape of the treaty of 363 – that is, the decline of the rural settlement in the area of Cizre and the disappearance of Bezabde – the area left in Byzantine hands was quickly reconfigured, with no major changes afterwards until the Islamic conquest of 638[70]. The strenuous desire of the Byzantine Empire to retain northern Mesopotamia is explained not only by defensive considerations but also for economic reasons: in fact, the upper Tigris valley ensured the control of the Euphrates commercial road and, thanks to the fertility of its river terraces, it probably constituted a precious granary in the context of the eastern frontier, whose local defense was based on the fortified cities of Amida and Martyropolis[71]. The Roman presence in northern Mesopotamia is, then, marked by the need to maintain the local rural vocation, a feature of the area since the Hellenistic age[72]. This is an element that M. Mazza defined as evidence of the incomplete Romanization of the region, which elsewhere in the east had occurred through a rapid urbanization process[73]: however, also regions already heavily urbanized during the pre- and Hellenistic periods – for example Galatia – remained largely rural with a plenty of villages around Ancyra[74].

As the available epigraphic corpus attests in upper Tigris, in the Roman period, Greek was still the *lingua franca*[75]. That said, the inscription known by Çattepe[76] bears witness to the bilingualism of the communities in the villages of northern Mesopotamia, a region in which the language was of Aramaic stock[77]. In his writings, T. Mommsen had already highlighted the consequences that the division of Mesopotamia between Rome and Persia

[68] The raids suffered by the upper Tigris valley were numerous: an explicit reference to the devastation of the fertile countryside of Amida and Martyropolis is made with regard to the events of the 578 (Men. f. 23, 1, 16-43, 23, 6; Joh. Eph., *HE,* VI,14, 27; Th. Sim., III, 15, 11-12).

[69] Whiting 2017.

[70] Drijvers 2008, 448.

[71] Isaac 1992, 250-260; Decker 2007; for an analysis of the reasons for the necessary control of Armenia and the upper valley of the Tigris River, see Mazza 2005, 29; Gregoratti 2013; for the Levant, see Bowersock 2012.

[72] A large rural hinterland was essential for these places to exist: for the 'provincialisation' process of Galatia (central Anatolia) by expanding on the military-related factors, see Bennet 2019, 241.

[73] Mazza 2005, 32.

[74] For Galatia, see Bennet 2019.

[75] A number of inscriptions (50) have been identified reused in the city walls of Amida, dating back variously between the fifth and sixteenth centuries: among the Byzantine epigraphs, six are in Greek and one in Latin: see Pizzocheri, Broilo 2015.

[76] Healey, Lightfoot 1991.

[77] On other Aramaic epigraphic evidences dating to the Roman age from northern Mesopotamia, see Healey 2009.

had on the balance of ethnic groups in the region[78]: in ancient times, the same point had been advanced as a concern by Romans themselves to those who annexed populations ethnically much more similar to the Persians[79]. As recently highlighted by Marciak, the cultural identity of the populations living in the upper Tigris valley is a very complex topic: a new reassessment of archaeological data in the light of the sources available for the Hellenistic and Roman periods may help to achieve a better understanding of the region between the two satrapies of Sophanene and Arzanene[80]. Indeed, from the available survey data on the upper Tigris valley, despite its nature as a borderland between Romans and Parthians, the local communications network seems to show a high degree of connectivity between local communities living on the opposite banks of the rivers, further demonstrating the extreme cultural complexity of the frontier[81].

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[78] Mommsen 1854-56, v. 356.

[79] Cassius Dio, LXXV, 3, 2-3.

[80] Palermo 2016; on the ethnic composition of the populations of the upper valley, see Marciak 2014b. See also the fundamental Bowersock 1990 on Hellenism in Late Antiquity in Near East, with references.

[81] Isaac 1992, 249-251; Mazza 2005, 146-149; see also Segal 1955.

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HEARTHS AND OVENS
Interpreting fire installations in the Late Bronze Age on the Anatolian plateau

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Abstract

Cooking methods and practices are crucial in defining group identity, in expressing social and kin networks, and in reflecting domestic economies. The paper discusses different types of fire installations from Central Anatolia during the Late Bronze Age in the context of household activities. Hearths and ovens are the two basic types of fire installations attested in the Hittite Period. Construction methods, materials and location are discussed with the aim of tracing the functions of various types of fire installations during the different stages of food preparation (boiling, roasting and baking) and of cereal processing. The interpretations of the functions also include artifacts found in the contexts of these installation (e.g. cooking pots), as well as archaeobotanical and archaeozoological remains accompanying them. In addition, ethnoarchaeological observations from modern Turkey and other places of the Near East have been considered.

INTRODUCTION

Food is fundamental to human existence and the cooking act is a central, inescapable moment in people's life, so that it represents a fact of culture, a direct expression of what people do, know, think – of what basically they are (Montanari 1998: IX).

The introduction of food processing in daily life, often through heat, was in fact one of the most important moments of human evolution, both in biological and in social terms (Dunbar and Gowlett 2014: 277-296; Balossi Restelli 2015: 127-128; Villing and Spataro 2015: 1). In fact, fire and fire installations, like hearths and ovens, have played a central role in all ancient societies since the beginning (Smogorzewska 2012: 227; Balossi Restelli 2015: 127-128; Matthews 2016: 107-109). Therefore, it is not a case that the hearth has always had a central position inside domestic and public buildings, both from a physical point of view and for its use. Just like today, in ancient times it was the place where food was prepared, where the family could find relief from cold and darkness and around which men and women could sit and talk, organize and discuss. Thus, the hearth embraced

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a series of events, from the daily activities to the most intimate moments of a family, from the ritualised ceremonial food and drink preparations to the welcome of guests. As a matter of fact, even today the word "hearth" is a synonym of "home" in many modern languages (Balossi Restelli 2015: 127). In particular by means of their heat and some tools (cooking pots etc.) hearths and ovens have always allowed people to cook meat and vegetables, making them edible and digestible and maximizing their energetic value (Wandsnider 1997: 2-10).

In the last years many scholars, stimulated by eminent authors like C. Levi-Strauss[1] and R.N. Salaman[2], have stressed the fact that food access, its processing through heat and tools (cooking pots, grills, skewers etc.) and its consumer patterns are central factors in historical and archaeological research. The "food ways" (namely the way food is felt, thought and lived) and the cuisine (the art of cooking) are in fact good instruments to study the cultural identity, as well as the social and economic relations of various populations (Villing and Spataro 2015: 1).

But since it is not always easy to reconstruct the ways food was lived, processed and eaten, especially when the written sources result absent or rather reticent, it is worth noticing what K.C. Twiss said (2007: 1): "We are what we eat. We also are where we eat, how we eat, and with whom we eat."

In this way, kitchen pottery and the fire installations used daily by ancient peoples allow us to complete the picture acquired through the study of the materials and the monuments traditionally considered of higher historical and artistic value (Sinopoli 1991: 122-124; Skibo 1992). In conclusion, if the goal of a researcher is the understanding of the culture and the social and political organization of a specific period or group of people, s/he will need to know their eating habits and the cooking methods that also reflect on fire installations and the other cooking tools.

In this research, fire installations from the Late Bronze Age sites of Central Anatolia will be discussed. The paper aims at an overview of the type of fire installations, with a focus on their role in household activities. In fact, still today Turkish terminology distinguishes among three types of fire installations according to their function: *ocak* (hearth), *tandır* (bread oven) and *fırın* (oven). Moreover, these differ in their location: *tandır* is invariably located indoor or outdoor and often in the street, *ocak* is situated in the kitchens and in courtyards, and *fırın* is variably placed both indoor and outdoor (Balossi Restelli 2015: 128). For the period concerned, the interpretation of these types, which seem to have remained fundamentally unchanged over time, will be based on the discussion of shape, details of construction, materials and location, resorting also to various archaeological data – both artefacts and eco-facts found associated with these fire installations – and to the ethnographic observations carried out in various regions of Near East.

[1] The French ethnologist, with the publication of the text about the "Culinary Triangle" for the first time in Chapter V of *Anthropologie Structurale* (1958), highlighted the possibility of applying the structuralist method to culinary culture.

[2] In the 1940s the British botanist published the book *The History and Social Influence of the Potato*, a work that, mixing anthropology, history and agrarian science, is considered still today a classic of world historiography.

Fire Installation: an overview and definition of types

According to A. Smorgozeweska (2012), each type of fire installations can be identified on the basis of a set of attributes: shape, size, material, manufacturing techniques and portability. In other words, fire installations can be distinguished in: open (hearths) or closed (ovens); built directly on the ground surface without superstructure (hearths) or with it (ovens); fixed (hearths and ovens) or moveable (portable ovens). All these variables have played a role in the heat preservation capacity, in the draft and fuel provision and consequently in the modality of use.

In the Late Bronze Age levels of Central Anatolia sites only two types of fire installations were attested: hearths and ovens.

Hearths

Hearths are open fire installations, usually built with clay and stones. In the sites of Central Anatolia during the Late Bronze Age it is possible to identify four types of hearths.

Type 1, the simplest, was an irregular burnt patch on the ground, often surrounded by ashes. Sometimes, it was also lined with stones and it had a thin cooktop of hardened clay applied on a layer of fired gravel and lime. Its location, always indoor, was varied: in front of the middle of a wall or near a corner.

The three other types differ in shape: Type 2 was circular-shaped (0,60-1,5 m in diameter); Type 3 was semicircular in shape (ca. 2 m in diameter) and Type 4 was square or rectangular in shape (ca. 1 × 1 m). Beyond that consideration, they appear built in the same way and located in the same place. Their cooktop was always made up of a fire-hardened clay layer, some centimetres thick and placed on another layer made of gravel and pottery sherds or stone slab. In this way, it resulted a few centimeters higher than ground level. Their location was almost always inside the courts or the rooms: in a central position, in front of a wall or near a corner. In some cases, the central ones could be placed near a portion of a wall stretching towards the centre of the room. However, examples of outside circular hearth were also discovered in proximity to some domestic buildings (Tab. 1, H6 and H9).

Ovens

Ovens are enclosed structures heated from within. The closed combustion chamber allows a better heat storage, facilitating the achievement of high temperatures. In the sites of Anatolian Plateau, during the Late Bronze Age, it is possible to identify two types of oven (Tab. 1).

Dome ovens

The archaeological data do not allow us to establish a specific typology, but, basing on ethnographic observations (Dalman 1935: 127-131; McQuitty 1984; Ökse *et al.* 2015:

44-45; Ebeling and Rogel 2015), it is possible to assert that dome ovens were probably large installations (ca. 3 m in diameter and ca. 0,5 m in height) with a brick or stone chamber, which was precisely dome-shaped and equipped with a curved opening at the base. The fuel (probably wood) and the food were placed on their floors built with stones, gravel and clay. They could be placed both inside a building and outside, in public spaces (like a street), thus becoming a place not only for cooking but also for meeting people – as still happens in some rural villages of modern Turkey (Yakar 2000; Ökse *et al.* 2015: 44).

Cooking pot supports - Tandır

Today the *tandır* (arab. *tannur*) is a fire installation with a clay bell-shaped superstructure tapering towards the top. As shown by the archaeological data and the various declinations of its name in different languages – both ancient and modern (Bottéro and Meadow 2004: 47-49; Smogorzewska 2012: 229; Rova 2014: 122) – this oven is widespread in Turkey and in the other regions of Near East from the Neolithic Period to the modern days. Today, unlike in the dome ovens, this fire installation has a large opening at the top and, therefore, it should rather be regarded as a semi-closed structure. The top opening, almost never maintained in the ancient *tandır*, in the modern ones can be covered with a removable lid allowing a better use of the heat generated inside the combustion chamber and, once it is removed, an easier leak of the smoke (Parker and Uzel 2007: 7-8; Parker, 2011: 606-607; Rova 2014: 122-126).

In the Late Bronze Age sites of Central Anatolia various ovens with similar characteristics have been identified and interpreted as possible *tandır* or cooking pot supports[3]. These had a diameter between ca. 0,49 m and 0,75 m. Only in one case was the chamber totally preserved in height, reaching 0,65 m (Tab. 1, O13). The walls of their bodies, made of clay, were usually 6-10 cm thick. Sometimes this type of oven could be placed in a small pit in the floor; other times it could be built directly on a hardened clay layer. Or it could also have a cooktop (where the fuel was placed) made up of a fire-hardened clay layer placed on another layer made of gravel and pottery sherds. Sometimes pottery sherds were also placed out of the lower part of the body walls. This additional casing did not only strengthen the structure of the oven, but it also made it possible to preserve more heat inside the combustion chamber and to slow down the process of cooling (Parker 2011: 608-610; Smogorzewska 2012: 229-230). A curved opening was always present at the base of the body, allowing to get the air necessary for the combustion and an easier cleaning (Köşklü 2005; Parker 2011: 606-607). For this last operation, as can be seen in the modern *tandır*, the body could be leaning forward, which at the same time made it easier to put bread or other foods inside (Köşklü 2005; Parker 2011: 606-607). All the examined ovens appear freestanding and their location varies from a central position to a more secluded one, in front of the middle of a wall or near a corner. In a unique case (Tab. 1, O13; Fig. 10), the combustion chamber was placed inside a stone and clay superstructure

[3] The term "cooking pot support" is used to describe a type of bell-shaped oven which had probably served more functions than *tandır*, mainly used for baking unleavened flat bread (see *Use of fire installations*).

forming a low platform that supported the oven body and that could be used as a working surface, as most ethnographic observations suggest (Parker 2011: 606-610). However, all ovens were firmly fixed to the ground and therefore are not transportable (Smogorzewska 2012: 230). This quality is also reflected in cuneiform texts (Bottéro 2004: 48). The small oven (Tab. 1, O16; Fig. 14-15) placed on a large Hittite baking plate to be movable, deserves a separate discussion. In fact, based on its physical features and on the context of its finding, it is possible that it was used as a fixed installation, like all the other ovens.

Archaeological data

Hearths

During the Late Bronze Age, in all sites of Anatolian Plateau, hearths of various shapes and sizes were built inside courtyards and rooms or in open spaces. Unfortunately, some of these are badly preserved or are described in broad terms by the archaeologists since their existence can only be spotted by some traces of burning and by some ashes. So, in most cases, it is difficult to reconstruct the features of these fire installations and to collect useful data. However, for the purpose of this study it is important to record their presence and, possibly, their location and function[4].

In House 51 (Neve 1984: 63-89), on the Lower Town of Boğazköy (Level U.St.3c), the main and biggest room was provided with a hearth (Tab. 1, H1) located near the western corner. Probably this installation was used as a stove to heat the room and to cook food (Neve 1984: 64). Similar is the case of two other fireplaces found in two buildings on the Upper City of the Hittite capital. These were identified by the evidence of burning in the surrounding soil and by the presence of some fragments of kitchen pottery. The first was a stove (Tab. 1, H2) placed in the middle of the northern wall, in proximity to the entrance of House 1 (Neve 2001: 91); the second (Tab. 1, H3) was located in front of the middle of the southern wall, inside the basement of House 4 (Neve 2001: 92).

Traces of strongly eroded hearths (Tab. 1, H4) were identified inside the buildings which made up the so called *Quadratgebäude-Horizont* (Square Building 1-2 and Building 7) in the Valley West of the Sarıkale. These fireplaces were located in the middle of the main hall, which was connected to the other rooms, probably belonging to soldiers (Seeher 2016: 147-153). Moreover, these simple hearths were situated in proximity to a portion of a wall – where it has been preserved – stretching towards the centre of the room. Their cooktops appear to be made up of a single layer of hardened clay and they can be identified by traces of burning (Seeher 2016: 150, Abb. 5). In a single case, a pit, where ashes and animal bones had been collected, was preserved close to one of these fire installations (Seeher 2006).

The Hittite capital is not the only site where excavations have returned some fireplaces. Some of them, for example, were spotted inside the simple domestic houses of Alaca

[4] The term "stove" is used to describe this type of hearth which cannot be put inside a specific category, but whose function was probably to light up and heat the spaces and to cook some food.

Höyük (Level III – Middle Hittite Kingdom), during the campaigns 1940-1948 (Koşay and Akok 1966). Unfortunately, their descriptions are totally absent, but based on their location inside rooms or courts, archaeologists have interpreted them as simple hearths and stoves (Koşay and Akok 1966).

Circular hearths

In the Late Bronze Age strata from various sites of Central Anatolia, circular hearths, large ca. 0,60-1,5 m in diameter, sometimes edged with bricks and stones, have been excavated.

Several of these fireplaces were found in various parts of the Hittite capital. The best preserved (Tab. 1, H5; Fig. 1) one was discovered inside House E, on the lower terrace of Büyükkale (Büyükkale IV) (Neve 1982: 61). In Room 2 of this building, there was an approximately circular hearth (1,5 m in diameter) placed near the eastern wall. It had a base of rubble and debris, about 30 cm high, set in the floor and levelled with a layer of fire-hardened clay. The latter layer, about 5 cm higher than ground level, had apparently been renewed twice. Each of these restorations was 6 cm thick (Neve 1982: 61).

An outdoor circular hearth (Tab. 1, H6) was found connected to the oldest phase of House 24, on the Boğazköy's Upper Town (Neve 1999: 128, 144-145). This installation, that according to P. Neve was used as a simple stove, was placed in front of the southern wall of Room 1. It consisted of a circular cooktop (0,75 m in diameter) only made with

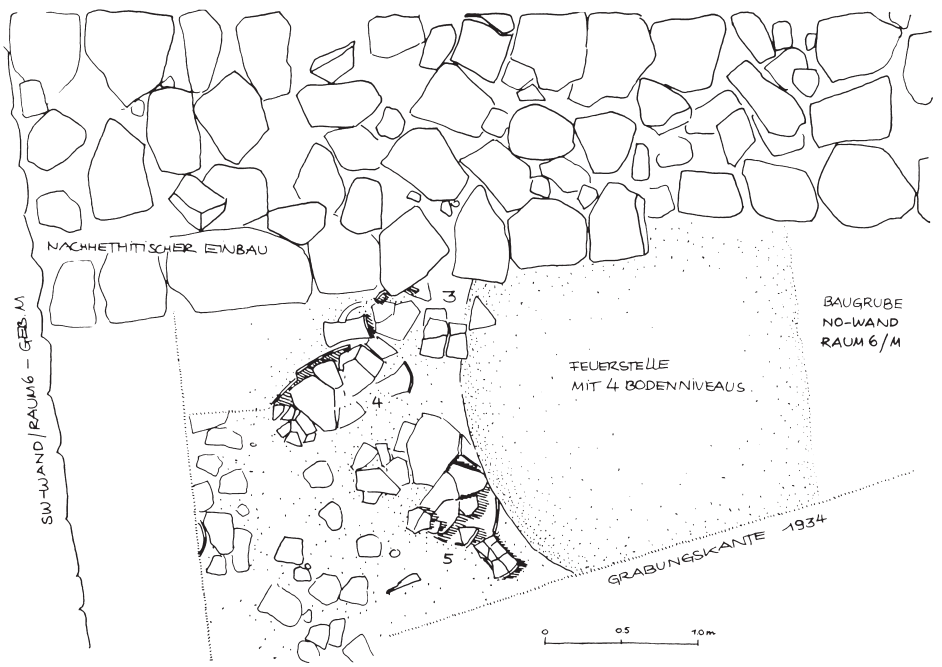

Fig. 1. Büyükkale IVb, House E. Hearth inside Room 2 (Neve 1982: Fig. 25b).

a 3 cm fire-hardened clay layer attached directly to the floor without a substructure (Neve 1999: 145, Taf. 148a). Right beside this fireplace, which was surrounded by a strip of ash (0,50-60 m large), there was a Hittite baking plate. Another hearth (Tab. 1, H7) was located inside the last room of the main wing of House 24. This was identified by the fire-hardened clay layer and the ashes spread above and around it (Neve 1999: 128).

To Phase 1 of House 27 – a simple domestic building on the Upper Town of Boğazköy (Neve 1999: 129, 144) – belonged two fire installations. The first one was a simple hearth (Tab. 1, H8; Fig. 2) with a 1,2 m wide surface, lined with stones and placed in the

Fig. 2. Upper City of Boğazköy, House 27. Hearth from Phase 1 (Neve 1999: Taf. 147a).

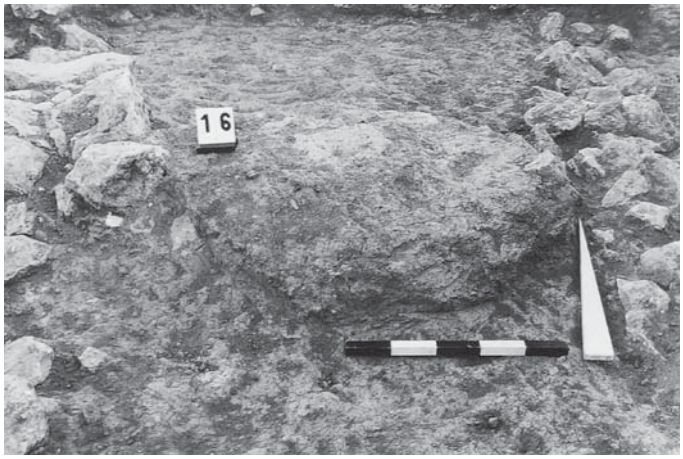

Fig. 3. Upper City of Boğazköy, House 27. Hearth from Phase 1 (Neve 1999: Taf. 147b).

south-eastern corner of the court. Not very far from it, a large Hittite baking plate was found in front of the eastern wall. The second fireplace (Tab. 1, H9; Fig. 3) was an external hearth located on the eastern side of the building, beside the entrance. It was circular in shape, with a diameter of 0,60 m and its cooktop was made with fire-hardened clay layer applied on another layer made of gravel and pottery sherds. The presence of ashes around it seemed to suggest the absence of a stone or mudbrick delimitation (Neve 1999: 129, 144). Furthermore, in Phase 3 of the same House 27, other fire installations did not only document metallurgical activities but also the occurrence of domestic ones. For example, near the south-eastern corner of a room a simple hearth was found (Tab. 1, H10), made with a circular layer of fire-hardened clay (0,60 m in diameter), placed on a stone slab. The presence of a vase *in situ*, directly next to the fireplace, and the finding of cooking tools in proximity to this, appear to confirm its use during domestic activities (Neve 1999: 145). Finally, another simple fireplace (Tab. 1, H11; Fig. 4) was also assigned to this settlement phase. It covered an area of ca. 0,63-0,80 m and it was made with 2 cm of clay layer attached on a layer of fired gravel and lime (Neve 1999: 145).

Two circular hearths were also found inside the İnandıktepe Palace (Özgüç 1988; Mielke 2006a). The first one (Tab. 1, H12) was a large fireplace, lined with stones. This was placed in the centre of Room 21, which archaeologist T. Özgüç interpreted as a kitchen on the basis of the presence of cooking pots spread on the floor and of a rectangular plastered platform located in the south-eastern corner (Özgüç 1988: 72-73). The other circular fireplace (Tab. 1, H13) was situated in the centre of Room 32, near a wall portion stretching towards the centre of the hall. However, its functions are difficult to explain since Room 32 was the only one surviving from the western wing (Özgüç 1988: 75).

A fireplace (Tab. 1, H14) was also discovered in the level 10bT of Alişar Höyük, dated by R.L. Gorny at the Late Bronze Age I (Gorny 1990; 1995a; 1995b). This hearth was placed inside a room in the south-eastern corner of the monumental building called Mainson. Its tamped mudbricks floor and curved sides were preserved 17 cm both in height and in thickness (von der Osten 1937: 19).

Fig. 4. Upper City of Boğazköy, House 27. Hearth from Phase 3 (Neve 1999: Taf. 148c).

Semicircular hearths

A semicircular hearth (Tab. 1, H15; Fig. 5a), 2 m in diameter, was found in Room 3 of House F (Büyükkale IV), on the lower terrace of Boğazköy's Citadel. It was placed in front of the northern wall, near the north-western corner, and it was bordered with stones. Its cooktop was made with a fire-hardened clay layer arranged on another layer of pottery sherds, resulting raised 6 cm above ground level. It was associated with another fireplace (Tab. 1, H16) (Neve 1982: 58-59).

Rectangular hearths

In House F, on the lower terrace of Büyükkale IV, together with the hearth 15 – as written above – another fireplace (Tab. 1, H16; Fig. 5b) was found inside Room 3, where it was placed in front of the eastern wall and near the entrance. It was square in shape,

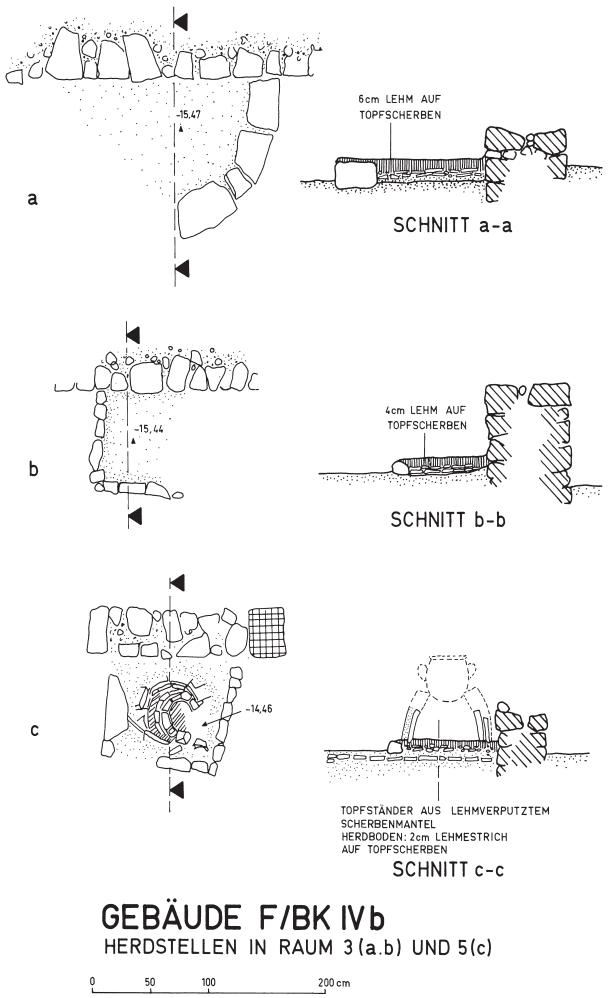

Fig. 5. Büyükkale IVb, House F. Hearths inside Room 3 and 5 (Neve 1982: Fig. 24).

with 1 m sides, and edged by some stones. Its cooktop, 4 cm high, was made up of a fire-hardened clay layer placed on another layer of pottery sherds (Neve 1982: 58-59).

Another rectangular hearth (Tab. 1, H17; Fig. 6) was found inside Building H, a small structure situated near Houses E and F on the Büyükkale. This fireplace was placed in proximity to the south-eastern corner of the largest of two rooms that constituted the small building. The long side of the fireplace measured 1,35 m, while the short one was 1,10 m. The cooktop was made with several hardened clay layers, resulting in a raise of 5 cm above the floor. Moreover, its northern side was bordered with some stones attached on four mudbricks (Neve 1982: 64-65). The archaeologist P. Neve interpreted this building and this fire installation as a craft workshop (Neve 1982: 64-65). However, the position of the structure and the presence of a pit full of animal bones and ashes in the older floor seem also to suggest a possible household use of Building H and its connection with the bordering domestic House E and F. In fact, still today in various rural villages of Anatolia (Parker 2007; Parker 2011) and the Near East, people often build their fire installations inside monocellular structures which are independent but closely related to their houses, in order to protect them from bad weather.

Finally, a rectangular fireplace (Tab. 1, H18) was placed between two ovens (Tab. 1, O1-2) in the interesting Room 10 of İnandıktepe Palace. Only the cooktop, probably made with clay and edged with stones, was preserved. The three fire installations were built on the same line, in the south-eastern corner of the room (Özgüç 1988: 72). Although T. Özgüç has identified Room 21 as the possible kitchen (Özgüç 1988: 73), these three fire installations and their related pottery inventory that includes cooking pots appear to

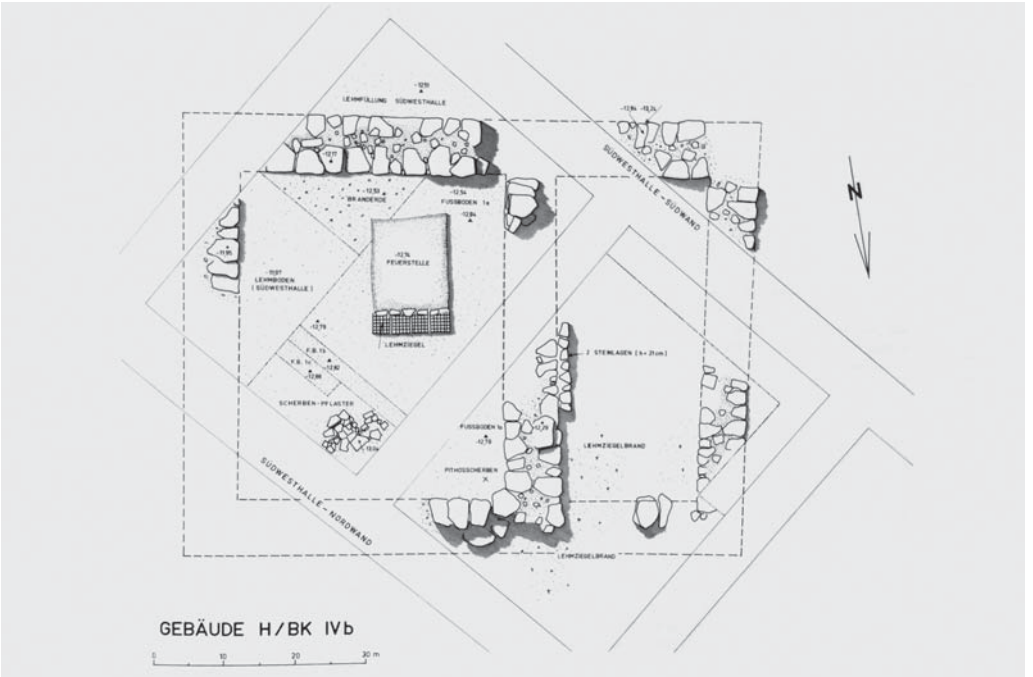

Fig. 6. Büyükkale IVb – Building H. Rectangular Hearth (Neve 1982: Fig. 27).

suggest that Room 10 was probably the most appropriate place for culinary activities. This hypothesis is also supported by the close connection of this space with the nearby storage rooms and the parallels with other cases where more fire installations are associated together (e.g. Room L.2890 of Ebla's Royal Palace G).

Ovens

During the Late Bronze Age, in all sites of Anatolian Plateau, ovens of various shapes and sizes were built inside courtyards, rooms or open spaces. Unfortunately, like the hearths, most of these are not very well preserved or described in the reports and the publications. So, in some cases, it is difficult to reconstruct their features and to collect useful data to establish their typology and function.

This is the case for two ovens (Tab. 1, O1-2), identified in Room 10 of İnandıktepe Palace. They were placed on the sides of the hearth 17 described above. These ovens were rectangular in shape and lined with stones (Özgüç 1988: 72). Another strange oven (Tab. 1, O3) was discovered at one side of a courtyard of a simple house in Level II (New Hittite Period) during the excavations 1963-1967 of Alaca Höyük. This small circular fire installation has been found with part of its stone body nestled in the walls of the rooms at the back of it (Koşay and Akok 1973: 58, Pl. 86).

Dome ovens

Remains that can certainly be attributed to dome ovens have not been found in Late Bronze Age sites of Central Anatolia. However, possible traces of these can be seen in some Hittite cities. The first case is that of Yörüklü-Hüseyindede Tepesi (Yıldırım 2009). Here, on the eastern side of the hill, two large circular fire installations (Tab. 1, O4-5) occupied a good portion of a street surrounded by a public building and some private structures (Yıldırım 2009: 237). Only the stone bases of their combustion chambers and the sandy, gravelled soil on which they had been installed were preserved (Sipahi *et al.* 2000; Yıldırım and Sipahi 2001). The possible dome superstructures were not preserved. The accomplishment of domestic activities by the local community appears confirmed by the large amount of common pottery found spread around on the ashy soil (Yıldırım and Sipahi 2001).

The other examples are the remains of two semicircular structures identified inside two small rectangular rooms (Room 9-10) connected to the two main halls of Boğazköy's GAL MEŠEDI-*Haus* (Schachner 2015; 2017). These large stone installations, of which only the lower part of the superstructure was preserved (Schachner 2009: 34; 2017: 26-27), had been placed near a corner of the two rooms. Their interpretation as dome ovens (Tab. 1, O6-7; Fig. 7) seems the most likely. In fact, the large amount of bowls, Hittite baking plates and some special vases found inside two other small rooms (Gruber 2017) led us to presume that activities like the consumption of alcoholic beverages and food occurred in this building (Schachner 2015: 194-200; 2017: 49-50).

During the excavations 1940-1948 at Alaca Höyük, in the domestic houses of Level III (Middle Hittite Kingdom) some circular ovens (Tab. 1, O8) were discovered. Their cooktop was made with a hardened-clay layer placed on another layer made of pottery sherds

Fig. 7. GAL MEŠEDI-Haus. Dome oven inside Room 9 (Schachner 2017: Fig. 32).

allowing a better conservation of the heat needed for bread baking. Their walls, at the base, were regularly built with stones, whereas their domes were in mudbricks (Koşay and Akok 1966: 130). The base of another circular large oven (Tab. 1, O9) was spotted in proximity to the wall of one court belonging to a house of Level IV (Old Hittite Period). Unfortunately, information about this fire installation is limited. However, H. Koşay and M. Akok (1973: 59) suggest that it was used for baking bread.

Cooking pot supports - Tandır

The rests of a bell-shaped oven (Tab. 1, O10; Fig. 5c) were found inside Room 5 of House F (Büyükkale IV), in front of the middle of the western wall (Neve 1982: 58-60). Its circular body was located directly on a semi-square platform (ca. 1 × 1 m), the western side of which was bound to the room wall, whereas the other sides were lined with stones. This base was made with a 2 cm hardened-clay layer placed on another layer made of pottery sherds. The walls of the combustion chamber were a few inches thick and they were built with several pottery sherds covered with clay (Neve 1982: 59). At the base, the oven measured ca. 75 cm in diameter and probably had a curved opening.

A possible cooking pot support (Tab. 1, O11; Fig. 8) was the fire installation brought to light in the centre of a room belonging to one of the late Hittite domestic building north-east of Kessikaya (Schachner 2011: 35-36). Unfortunately, a description was not provided, but some data can be obtained from the photo (Schachner 2011: Abb. 9-10): it was a circular oven with a well-preserved bell-shaped superstructure. The walls of the body, made with hardened clay, appear to be less than 5 cm thick. At the base, the oven had a typical curved opening, which measured ca. 20 cm.

Another possible cooking pot support (Tab. 1, O12; Fig. 9) was discovered in Level IIIa of Maşat Höyük (Özgüç 1978; Özgüç 1982). This oven, unfortunately, was not described, but from the photo (Özgüç 1982: 78, Pl. 19) it is possible to see that it had a clay bell-shaped body with a curved opening at the base.

A perfectly preserved oven (Tab. 1, O13; Fig. 10) was discovered inside the Northwest Tower of Kuşaklı-Šarišša (Mielke 2004a; Mielke 2004b; Mielke 2004c; Müller-Karpe

Fig. 8. North-east of Kessikaya. Oven inside a late Hittite domestic building (Schachner 2011: Fig. 10).

Fig. 9. Maşat Höyük. Cooking pot support from Level IIIa (Özgüç 1982: Pl. 19).

Fig. 10. Kuşaklı-Šarišša, Northwest Tower. Cooking pot support inside Room 7 (Müller-Karpe 2017a: Fig. 30).

2017a). This fire installation had been placed inside the long rectangular Room 7, behind a portion of a wall stretching towards the centre of the room. This wall did not only divide the room into two parts, but it also sustained a rectangular platform (Mielke 2004a: 24-26; Mielke 2004c: 150-152). This stone and clay superstructure, not visible from the entrance since it was hidden by the wall, measured ca. 2,00 × 0,60 m and probably functioned as a working surface. Only the front and the top of the clay combustion chamber were visible, whereas the rest of the bell-shaped body was installed inside the above described platform. The oven had a base that measured ca. 0,75 m in diameter and the top ca. 0,55 m. The combustion chamber, perfectly preserved in height, measured ca. 0,65 m and it had two openings: one at the base, unusually large and typically curved in shape, which measured ca. 0,45 m; the other one was circular-shaped at the top and it measured ca. 0,30 m. The cooktop and the body had been built with hardened clay. The superstructure walls were little less than 0,10 m thick and the rims of the two openings were more finished. This fire installation – based on its physical features – can be interpreted as a cooking pot support. The proof of this hypothesis is provided by the rim of the top opening. This, in fact, had three bulges that together had to serve as supports for cooking pots placed on it and – at the same time – they had to prevent the vases themselves from obstructing the vent and from suffocating the flame (Mielke 2004a: 24-26; Mielke 2004c: 150-152).

A portion of a possible cooking pot support (Tab. 1, O14; Fig. 11-13) came from the south-eastern slope of the lower town of Uşaklı Höyük[5]. Although found on the surface of the agricultural land (Fig. 11), this oven can be dated to the II Millennium B.C. based on the associated pottery material. It was probably circular in shape and handmade. The clay texture reveals a high frequency of vegetables and mineral inclusions, mainly medium/small in size (0,5-3 mm) together with some bigger ones being approximately 10-16 mm. The body was entirely preserved in height (30 cm) and it was provided with an opening on the top. The diameter likely measured about 80 cm externally and 39 cm internally and the walls, variable in thickness (12-16 cm), were finished and smoothed (Fig. 11-12). The rim of the top opening, where preserved, in addition to being processed in the same way, seems to reach the maximum thickness (Fig. 13) and make a slight crest close to the fracture (Fig. 12). This may be an indication of the presence of a lost bulge which could facilitate the support of a cooking pot.

A possible *tandır* (Tab. 1, O15) was found in Level II of Kayalıpınar during the excavation of the western side of Building D (Müller-Karpe *et al.* 2014; Müller-Karpe *et al.* 2017). The cooktop of this oven had been built with a fire-hardened clay layer placed on another layer made of grits and pottery sherds dated to the final phase of the Hittite Kingdom. This base was leaning forward and it was also placed directly on a stone relief of a Hittite Godness. Unfortunately, only some traces of the bell-shaped chamber were preserved *in situ*. The rest of this fire-hardened clay body was found about 1,5 m far away (Müller-Karpe: 2006: 215).

[5] Information about Uşaklı Höyük fire installations comes from the author's personal research at the site from 2016. I would like to thank Stefania Mazzoni and Anacleto D'Agostino for permitting me to study and analyse this artefact *in loco*.

Fig. 11. Uşaklı Höyük. Cooking pot support from the surface of the south-eastern slope of the Lower Town (figure credit: Uşaklı Höyük Archaeological Project).

Fig. 12. Uşaklı Höyük. Front view of the inner side of the cooking pot support (figure credit: Uşaklı Höyük Archaeological Project).

Fig. 13. Uşaklı Höyük. Top view of the cooking pot support (figure credit: Uşaklı Höyük Archaeological Project).

Finally, an unicum is the oven (Tab. 1, O16; Fig. 14-15) discovered in Building III belonging to Phase 9 of the Büyükkaya (Seeher 2018: 79-80). This fire installation was situated in the northern corner, near the eastern wall of a simple house, where it had been placed on a clay platform, ca. 10 cm high, ca. 40 cm large and lined with stones. The clay bell-shaped body at the base had a diameter of 0,49 m and it was preserved 0,30 cm in height. At the base it also had the typical curved opening, 23 cm large and 24 cm high. The walls, mostly near this opening, were smoothed, fired and hardened. Even if the upper portion is not preserved, this fire installation can be interpreted as a cooking pots support. The unusual feature was that its clay superstructure was placed on a pottery plate (Seeher 1995: 610-612; Seeher 2018: 79-80). This vase was a typical Hittite baking plate with a conventional thickened rim measuring 62 cm in diameter and bearing the classic rope impressions (Mielke 2006b: 126-136; Mielke 2017: 128-132; Schoop 2011: 246-247). It is possible that this plate served to transport the oven, but the hardened, fired soil, both under and in front of the installation, as well as the various fragments of the plate found against the wall behind the bell-shaped body, suggest that it was used for a long time in

Fig. 14. Büyükkaya, Building III. Cooking pot support inside a late Hittite domestic Building (Seeher 1995: Fig. 12).

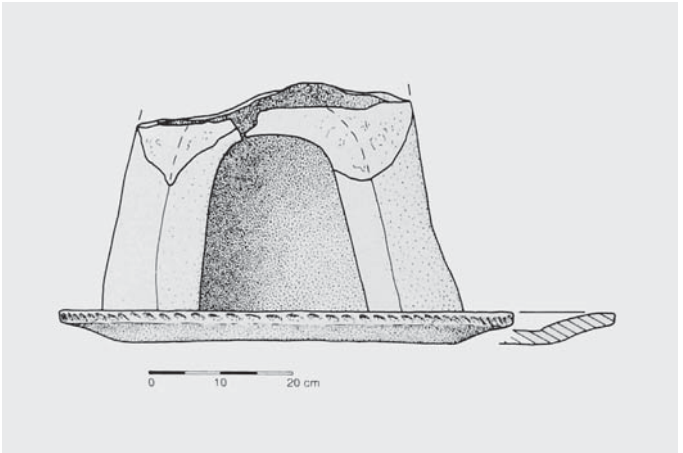

Fig. 15. Büyükkaya, Building III. Cooking pot support placed on Hittite baking plate (Seeher 1995: Fig. 13).

the place of the discovery. In favour of a seasonal employment there is also the considerable weight of the clay body, the walls of which were 6 cm thick (Seeher 1995: 610-612; Seeher 2018: 79-80).

Use of fire installations

This discussion about the functions of the fire installations will consider their form, their modality of construction, connected artefacts (e.g. cooking pots and other pottery vessels) and eco-facts (archaeobotanical remains, e.g. charred grains, and post-consumption animal remains), as well as the ethno-archaeological observations. Their functions will be discussed one by one. However, it must be kept in mind that in the household activities a type of fire installation did not necessarily limit its function to just one type of use, but it could have served several different purposes.

Hearths

Hearths may have been used for many purposes: for cooking or roasting food directly before consumption, for processing food and, obviously, for heating and lighting up the rooms.

The Anatolian Plateau summers are hot and dry, but the winters are cold and rich in snow. Therefore, fire installations had to be used for heating rooms. This role was predominantly played by hearths. In fact, among the 18 documented hearths in the Central Anatolian sites of the Late Bronze Age, the most part of them were located inside central rooms and courts of buildings or in detached structures, probably roofed; only two hearths were located outdoor.

The archaeological contexts of this type of fire installation have also returned cooking tools and charred post-consumption animal bones. With the support of hearths, various dishes could be cooked in many ways: meat, cereals and vegetables could be roasted on the hot embers by means of some accessories, such as grills and wood skewers, or could be boiled inside cooking pots or roasted by means of baking plates placed directly in the middle of embers.

The traces of fireplaces spotted in the *Quadratgebäude-Horizont* of Boğazköy are a clear proof of all these functions. These hearths, located in a central position in the main rooms, in fact, played an important role in the life of the people who lived there. These rooms and their fire installations were used as a communal and meeting place to warm up, cook, eat and talk (Seeher 2016: 147-153). The evidence of these activities comes from the inventory pottery that includes a good number of bowls, cooking pots and Hittite baking plates (Schoop 2006: 226-235) and from the archaeozoological studies (Hollenstein and Middea 2016). Although the latter has confirmed that goats, sheep and cattle were mainly raised for breeding and milking[6], it shows how the pig, found in low frequency, was

[6] Probably these animals ended up in the kitchens only when they were already old and their meat was no longer of high quality (Hollenstein and Middea 2016).

primarily a source for meat, and so were hunted wild animals. What kinds of food could be cooked and consumed cannot be established with certainty. However, it is possible to assume that some humbler dishes – if compared to those containing beef and goat – like bread, soups and wild animals were cooked daily in the communal rooms with the support of these hearths (Hollenstein and Middea 2016).

Ovens

Dome ovens

Nowadays modern dome ovens (Dalman 1935: 130; Ebeling and Rogel 2015) are the primary fire installation used by bakers for cooking the leavened bread called *fırın ekmeği* (Yakar 2000: 176). It is likely that the use of this oven has remained unchanged over time: the fuel is burned on the base of the dome chamber, where dough cakes, sometimes together with other types of food, are placed to be baked at slow heat (Dalman 1935: 127-131). The finding of these ancient fire installations in public places – like streets or courts – or inside a room of special buildings, suggests that they were to satisfy the food demand of a relatively large group of people. It is obvious that on these occasions the cooking act was not only a culinary practice but also a social moment, as it is still nowadays in some rural Anatolian villages (Yakar 2000: 139).

Cooking pot supports - Tandır

In comparison with the modern *tandır*, primarily used to cook unleavened flat breads (Parker 2011: 610-611; Rova 2014: 126) – called *tandır ekmeği* (Yakar 2000: 176) – the ancient bell-shaped ovens discovered in the Late Bronze Age sites of Central Anatolia appear to have served more functions than the only one of baking bread. In fact, despite having several features in common with the modern ones such as size, shape and building techniques, it is likely that the ancient ovens were also used for cooking or roasting other types of food.

Only the oven identified in Level II of Kayalıpınar (Tab. 1, O15) was probably used to mainly cook bread and it can be properly defined *tandır*. In fact, its body, although not well preserved, was leaning forward – as is still the case for many modern *tandır* (Parker and Uzel 2007: 7-9; Parker 2011: 610-611; Rova 2014: 126) – in order to facilitate the sticking on its hot walls and then the removal of the dough cakes. The remaining ovens were probably used to cook other food. In fact, these fire installations can be considered more likely as supports for cooking pots placed on their top openings (e.g. the oven with three bulges on the top opening discovered in Kuşaklı-Šarišša) or as roasting tools (inserting hooks and spits inside their body). This function would also find an explanation in some changes that took place inside the cooking tools between the Middle Bronze Age and the Late Bronze Age: the horseshoe-shaped hearths, the double chamber hearths, the andirons and the cooking pots with support directly attached, documented in several Middle

Bronze Age sites of Anatolian Plateau[7] and missing – for the moment – in the successive Hittite levels, may have been replaced by these multi-use bell-shaped ovens.

The hypothesis of their use as a support for cooking pots, as already said, is also based on the finding of the perfectly preserved oven inside the Northwest Tower of Kuşaklı-Šarišša (Tab. 1, O13). The three bulges on the rim of the top opening, in fact, show how at the time of its manufacture this fire installation had been designed in order to allow a pot to be placed on the top and the heat generated inside the combustion chamber to be used optimally, without the suffocation of the flame. A confirmation that culinary activities including boiling could be carried out in this building derives from the discovery of a large amount of charred barley inside the rooms. The archaeobotanical analysis, in fact, showed how the grains had some breaks which usually occur when the cereal, previously boiled, is flattened and crushed (Mielke 2006c: 31). This specific procedure guarantees a better preservation of the cereal and shorter cooking time, so that it is still practiced today in Turkey to make a semi-finished product, called *bulgur* which is consumed in many typical dishes (Yakar 2000: 177; Dörfler *et al.* 2011: 106; Pasternak and Kroll 2017: 208-211).

Finally, also ethnographic evidence in various areas of Near East attests a secondary use of the *tandır* itself to cook meats and vegetables by means of cooking pots placed on the top opening or by means of hooks and spits inserted in its combustion chambers. Nowadays these practices are usually carried out when the bread has already been baked (Dalman 1935: 110-111; Mulder-Heymans 2002: 199; Ökse *et al.* 2015: 44; Smorgozeweska 2012: 243).

Conclusions

The fire installations from Late Bronze Age sites of Central Anatolia can be divided into two types: hearths and ovens.

All of them, regardless of the type, were built with similar materials (clay, stones, gravels and potsherds), suitable for efficient heat preservation. Clay was employed to build the different parts (e.g. cooktops and walls) of various fire installations, whereas the stones were primary used as building material for the floors and the walls of dome ovens. The use of stones is due to their relative non-combustibility and high density, allowing to capture and hold the heat for long periods of time. The creation of a cooktop with a pottery sherds and/or a gravel layer placed on another layer of hardened clay had a similar function.

Among the hearths we can make a distinction between simple fireplaces more or less regular in shape, only attested by the evidence of burning and ashes on the floor, and circular, semicircular and rectangular fire-hardened clay cooktops, a few inches thickened

[7] For Kültepe: Özgüç 1950; 1959; 1986; 2005; Özgüç and Özgüç 1953; Kulakoğlu and Kangal 2010; for Alişar Höyük: Schmidt 1932, von der Osten 1937; for Alaca Höyük: Koşay and Akok 1966; 1973; for Boğazköy: Neve 1982; for Acemhöyük: Öztan 2008.

and sometimes bordered or lined with stones and placed on a gravel and/or pottery sherds layer. The first simple hearths, which result to be also the cheapest since they do not require specific construction methods, were usually placed inside the main rooms of common domestic buildings (Tab. 2), where common people lived. The second group of hearths, which demanded a little more attention on the choice of materials and on the construction methods and times, was found indistinctly both in simple houses and in public buildings (Tab. 2).

Among the ovens, there are only a few examples of dome ovens, often poorly preserved, whereas the cooking pot supports are more frequent. The techniques and the price for building these two types of fire installations seem to be much more varied than the previous hearths. Dome ovens appear to have been built with stones inside public buildings (GAL MEŠEDI-*Haus*) or in public places (streets, as Yörüklü-Hüseyindede Tepesi, or court, as Alaca Höyük) (Tab. 2).This appears to suggest that maybe these large fire installations were usually used communally by groups of people or families who had decided to share the economic and time effort, both during the construction phase and in their following use. Something like this happens still today in the Near East, where dome ovens are mainly used by bakers: the latter sometimes accept to cook inside their fire installations food brought by other families. (Dalman 1935: 130; Ebeling and Rogel 2015). On the contrary, the Late Bronze Age cooking pot supports were usually found inside the main room of domestic houses of various sites (Tab. 2). In fact, these fire installations – with their clay body and pottery sherds, gravel and clay cooktop – were smaller and probably they were cheaper than the previous ones, not only in their building phase, but also in their use (less fuel needed). In this way, they appeared to be more suitable for family food requirement or for a single group of people.

As far as their functions are concerned, the various fire installations were obviously used in many different ways during the household activities. In fact, like nowadays, they were mainly used for heating, cooking and processing food. But hearths could also be used for lighting, heating rooms and for boiling (by means of cooking pots) or roasting the food (using skewers, grills or baking plates). In the same way, cooking pot supports and dome ovens may have been employed for the same culinary purposes (see above, *Use of fire installations*). Just for their use during the household and the cooking activities related to food processing and meal preparation, these fire installations were usually placed in the courtyards and in the rooms constituting the heart of a building. In this way, during cold and snowy winters, people could warm up and cook indoors. Moreover, the discovery in some cases of fire installations built in groups inside a single room of domestic structures (e.g. Room 3, the main room of House F on the Büyükkale of Boğazköy) and monumental buildings (e.g. Room 10 of İnandıktepe Palace), provides further proof of what has just been said about their use. In particular the last example shows how public structures were probably provided with an area or a room used as kitchen.

To sum up, from the analysis of the various types of fire installations and from their distribution within the contexts, what seems to emerge is that hearths and ovens in Central Anatolia during the Late Bronze Age tended towards a sort of typological standardisation, which in some ways seems to go hand in hand with that of the ceramic production, including the kitchen pottery (Schoop 2009; Mielke 2017). In fact, the great variability of

cooking tools which had become part of the Anatolian tradition during the previous Ancient and Middle Bronze Ages – e.g. the horseshoe-shaped hearths, double chamber hearths, andirons and cooking pots with a support directly attached[8] (Ökse *et al.* 2015) – seems to disappear and not to be attested in the late Bronze Age. This absence might be explained with a multi-use of the hearths and the bell-shaped clay supports perfectly suited to support the typical Hittite cooking pot with globular body (Mielke 2006b: 80-85; Mühlenbruch 2012). In this regard, some considerations must be made about the *tandır*. This type of fire installation in ancient Anatolia, especially during the Late Bronze Age, does not seem to be particularly frequent, probably because people preferred to consume leavened bread baked in dome ovens[9]. Exceptions are the various centers of the Upper Tigris (from the Chalcolithic to the Middle Ages) and some Middle Bronze Age sites of Anatolian Plateau. The presence of these bread ovens in the contexts just mentioned above can be explained through the relationships established by these lands with the Syrian-Mesopotamian world. In Kültepe, for example, during the Middle Bronze Age, the significant number of this type of fire installation may be due to the increase of these contacts, as witnessed by the presence of Assyrian merchants, who certainly adopted local customs and traditions, but also brought with them technical knowledge coming from their motherland. In conclusion, the *tandır* – used mainly for baking unleavened bread – seems to acquire a special cultural meaning, becoming a sort of border element between the Syrian-Mesopotamian culinary world and the Anatolian one. In fact, the only probable sample of a *tandır* in Central Anatolia during the Late Bronze Age is the one spotted in the late Hittite level at Kayalıpınar, a site characterized by a previous presence of Assyrian merchants (Müller-Karpe 2017b: 61) and located on the eastern border of the heart of the Hittite Kingdom.

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[8] See above, footnote 7.

[9] Some scholars (Mielke 2006b: 134-136; Schoop 2011: 246-247) have supposed that the Hittite baking plates could be the cooking tool used daily to bake a type of unleavened bread, consumed still today in modern Turkey and called *yufka ekmeği*.

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Table 1

No.	*Type*	*Site*	*Chronology*	*Dimensions*	*Location 1*	*Location 2*	*Artefacts and eco-facts*	*Remarks*
H1	Simple hearth	Boğazköy	U.St.3c		House 51	Main room, near western corner		
H2	Simple hearth	Boğazköy	O.St.3		House 1	Main room, in the middle of the northern wall, near entrance	Cooking pots	
H3	Simple hearth	Boğazköy	O.St.3		House 4	Basement, in front of the middle of the southern wall	Cooking pots	
H4	Simple hearth	Boğazköy	15th cent. BC		*Quadratgebäude-Horizont*	Main room, central position	Cooking pots; animal bones	Placed near a portion wall stretching in centre of room
H5	Circular hearth	Boğazköy	Büyükkale IV	Diameter: 1,5 m; height: 5 cm above floor	House E	Near eastern wall		Cooktop: 6 cm hardened clay layer (twice renewed) applied on another 30 cm layer of gravel and debris
H6	Circular hearth	Boğazköy	O.St.2	Diameter: 0,75 m	House 24	Outside, near southern wall	Baking plate	Cooktop: 3 cm hardened clay
H7	Simple hearth	Boğazköy	O.St.2		House 24	Inside, near north-western wall		
H8	Simple hearth	Boğazköy	O.St.2	Surface: 1,2 m	House 27, Phase I	Court, near south-eastern corner	Baking plate	Bordered with stones
H9	Circular hearth	Boğazköy	O.St.2	Diameter: 0,60 m	House 27, Phase I	Outside, eastern wall of building, beside entrance		Cooktop: hardened clay layer applied on another layer of gravel and pottery sherds
H10	Circular hearth	Boğazköy	O.St.2	Diameter: 0,60 m	House 27, Phase III	Inside, near south-eastern corner	Cooking pots	Cooktop: hardened clay layer applied on a stone slab
H11	Circular hearth	Boğazköy	O.St.2	Surface: ca. 0,63-0,80 m; height: 2 cm	House 27, Phase III			Cooktop: 2 cm hardened layer of clay applied over layer of fired gravel and lime

No.	*Type*	*Site*	*Chronology*	*Dimensions*	*Location 1*	*Location 2*	*Artefacts and eco-facts*	*Remarks*
H12	Circular hearth	İnandıktepe	Last quarter of 16th cent. BC		Palace, Level IV	Room 21, central position	Cooking pots	Bordered with stones
H13	Circular hearth	İnandıktepe	Last quarter of 16th cent. BC		Palace, Level IV	Room 32, central position		Placed near a portion wall stretching in centre of room
H14	Circular hearth	Alişar Höyük	Late Bronze Age I	Height: 17 cm; thickness: 17 cm	Mainson, Level 10bT		Two grape-cluster pitchers, one storage vessel	Tamped mudbricks floor
H15	Semicircular hearth	Boğazköy	Büyükkale IV	Diameter: 2 m; height: 6 cm above floor	House F	Room 3, in front of northern wall, near north-western corner	Cooking pots, bronze objects; fire installation (H16)	Bordered with stones; cooktop: fire-hardened clay layer arranged on another of pottery sherds, resulting raised 6 cm above ground level
H16	Square hearth	Boğazköy	Büyükkale IV	1 × 1 m; height: 4 cm above floor	House F	Room 3, in front of eastern wall, near entrance	Cooking pots, bronze objects; fire installation (H15)	Bordered with stones; cooktop: fire-hardened clay layer arranged on another layer of pottery sherds, resulting raised 4 cm above ground level
H17	Rectangular hearth	Boğazköy	Büyükkale IV	1,35 × 1,10 m; height: 5 cm above floor	House H	Main room, near south-eastern corner	Ashes, animal bones	Cooktop: several hardened clay layers resulting raised 5 cm above the floor; northern side bordered with some stones placed on four mudbricks
H18	Rectangular hearth	İnandıktepe	Last quarter of 16th cent. BC		Palace, Level IV	Room 10, near south-eastern corner	Cooking pots; fire installations (O1-2)	
O1	Rectangular oven	İnandıktepe	Last quarter of 16th cent. BC		Palace, Level IV	Room 10, near south-eastern corner, western side of H17	Cooking pots; fire installation (H17)	

No.	*Type*	*Site*	*Chronology*	*Dimensions*	*Location 1*	*Location 2*	*Artefacts and eco-facts*	*Remarks*
O2	Rectangular oven	İnandıktepe	Last quarter of 16th cent. BC		Palace, Level IV	Room 10, near south-eastern corner, eastern side of H17	Cooking pots; fire installation (H17)	
O3	Oven	Alaca Höyük	Level II		Domestic house	Court		Body was built nestled into walls of rooms at the back of it
O4	Dome oven?	Yörüklü-Hüseyindede Tepesi	17th-16th cent. BC		Street		Common pottery; fire installation (O5)	Dome superstructure not preserved, but lower part of walls built with stones
O5	Dome oven?	Yörüklü-Hüseyindede Tepesi	17th-16th cent. BC		Street		Common pottery; fire installation (O4)	Dome superstructure not preserved, but lower part of walls built with stones
O6	Dome oven?	Boğazköy	14th cent. BC		GAL MEŠEDI-house	Room 9, near short southern side		
O7	Dome oven?	Boğazköy	14th cent. BC		GAL MEŠEDI-house	Room 10, near short eastern side		
O8	Dome oven?	Alaca Höyük	Level III		Domestic house			Dome superstructure built with mudbricks and strengthened at the base with stonework; cooktop: fire-hardened clay layer arranged on another layer of pottery sherds
O9	Dome oven?	Alaca Höyük	Level IV		Domestic house	Court, near wall		
O10	Oven (cooking pot support)	Boğazköy	Büyükkale IV	Diameter: 0,75 m at base	House F	Room 5, in front of the middle of the western wall	Pottery, bronze objects	Bell-shaped body made with pottery sherd covered with clay; cooktop: ca. 1 × 1 m platform composed of 2 cm hardened clay layer placed on another layer of pottery sherds; curved opening at base

No.	*Type*	*Site*	*Chronology*	*Dimensions*	*Location 1*	*Location 2*	*Artefacts and eco-facts*	*Remarks*
O11	Oven (cooking pot support)	Boğazköy	Late Hittite		Domestic building north-east Kessikaya	Central position	Pottery sherds	Bell-shaped body made with hardened clay; curved opening at base
O12	Oven (cooking pot support)	Maşat Höyük	15th cent. BC-first half of 14th cent. BC		Citadel, Level IIIa			Bell-shaped body made with hardened clay; curved opening at base
O13	Oven (cooking pot support)	Kuşaklı-Šarišša	14th cent. BC	Diameter: ca. 0,75 m at base, 0,55 m at top; height: 0,65 m; thickness of walls: <10 cm	Northwest Tower	Room 7, central position	Pottery sherds, charred barley	Placed near a portion wall and inside a superstructure (ca. 2,00 × 0,60 m); bell-shaped body made with hardened clay; cooktop: hardened clay layer; two openings: one at base (45 cm diameter), another at top (30 cm diameter); three budges on rim of top opening
O14	Oven (cooking pot support)	Uşaklı Höyük	2nd millennium BC	Diameter: 0,80 m externally; height: 0,30 m; thickness of walls: 12-16 cm	Surface			Partially preserved; circular in shape and furnished with a top opening; walls and rim of top opening finished and smoothed; possible presence of a bulge
O15	Tandır	Kayalıpınar-Šamuha	Second half of 13th cent. BC – Level II		Western side of Building D			Bell-shaped body made with hardened clay; cooktop: fire-hardened clay layer placed on another layer of pottery sherds, leaning forward

No.	*Type*	*Site*	*Chronology*	*Dimensions*	*Location 1*	*Location 2*	*Artefacts and eco-facts*	*Remarks*
O16	Oven (cooking pot support)	Boğazköy	First half of 13th century – Büyükkaya Phase 9	Diameter: 0,49 m at base; heigth: 0,30 m (top not preserved); thickness of walls: 6 cm	Building III	In northern corner, near eastern wall		Placed on clay platform (40 cm large and 10 cm high) bordered with stones; bell-shaped body made with hardened clay; cooktop: Hittite baking plates (62 cm diameter); curved opening at base (23 × 24 cm)

Table 2

	Private buildings	*Public buildings*	*Public areas*
Simple hearths	X		
Circular hearths	X	X	
Semicircular hearths	X		
Rectangular hearths	X	X	
Dome ovens		X	X
Cooking pot supports	X		

HAJJI FIRUZ AND DALMA TRADITIONS
Continuity or not?

Amir SAED MUCHESHI*

Abstract

This study questions the validity of the temporal and cultural gap between the Neolithic Hajji Firuz and Chalcolithic Dalma traditions, which is assumed to span a gap of about five hundred to one thousand years. Rather, the data obtained from previous and newly available evidence point to continuity from Hajji Firuz to Dalma cultures from both temporal and cultural aspects. It is possible that the Dalma tradition spanned a long period, including the Early Chalcolithic period in northwestern Iran, and an earlier part of the Chalcolithic period in the Central Zagros region. Dalma ceramic evidence analogous with those found in northern and western Iran demonstrates antiquity and continuity of this tradition. It seems that the Dalma tradition continued after the Hajji Firuz tradition in northwestern Iran without a gap and began earlier than what was previously assumed in the eastern part of the Central Zagros region. To address this issue further, we used absolute and relative dating and the archaeological evidence obtained from western and northwestern Iran, Mesopotamia, Caucasus, and the northern part of the central Iranian Plateau.

INTRODUCTION

Based on research conducted in East Azerbaijan, West Azerbaijan, and Ardebil provinces in northwestern Iran (Fig. 1), it has been suggested that late Neolithic culture (Hajji Firuz tradition) was replaced by Chalcolithic culture (Dalma tradition). Previously, it has been proposed that there was gap of a few centuries to a one-thousand-years between Hajji Firuz and Dalma traditions because no archaeological sites have been dated to this gap period (Henrickson 1985: Fig. 21; Hole 1987a: 45; Voigt 1983: 353). This is probably due to a mistake in dating Dalma in such a way that a newer date has been mistakenly suggested for it.

According to above referenced authors, the Hajji Firuz period continues until the end of the 6th millennium B.C. or the beginning of the 5th millennium B.C. Henrickson considers the end of the Hajji Firuz tradition at about 4800 B.C. and the beginning of the Dalma tradition at 4100 B.C. (Table 1). In contrast, Frank Hole, used radiocarbon dates to suggest an end date for Hajji Firuz at 5200 B.C. and the beginning of the Dalma

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tradition at the end of the 5th millennium B.C. (Hole 1987a: 45) wondering about the existence of a 1000-year gap period. However, he suggests a different date in his relative chronology table (*ibid.*: 57). Although the Dalma tradition is considered to be approximately a millennium later than Hajji Firuz, it is widely regarded as an early Chalcolithic period in northwestern Iran. Thus, the 1000-year gap period without a settlement does not conform to any archaeological periods. This discontinuity, although not emphasized here, could not be proposed as a transitional period, since a millennium seems to be a long time for a temporal gap. Before discussing, it is necessary to introduce the discussed traditions (Hajji Firuz and Dalma Traditions, and Plum ware Tradition):

Fig. 1. Provincial districts of Iran and the location of the archaeological sites mentioned in the text.

Hajji Firuz Tradition Ware

In the northwest region, the Neolithic period begins with the Hajji Firuz Tradition. The Tepe Hajji Firuz has material culture dating to the middle and late 6 millennium BC (Hole 1987a: 45; Voigt 1983: 348-349) and is considered the oldest settlement of the area (Kroll 2016). Hajji Firuz Ware is straw-tempered and hand-made, with a burnished surface that ranges in color from light pink to red and yellow. Three decorative techniques are used including a thin slip that covers the entire surface, the application of color in geometric patterns, and incising (Voigt 1983: 98-99). Painted motifs include large geometric elements repeated around the bowl exterior (*ibid.*: 139). Technologically, Hajji Firuz pottery styles are similar to the ceramics of the Hassuna culture of Northern Mesopotamia (Voigt 1983: 163; Hole 1987a: 44-45).

Dalma Tradition Ware

Dalma Ware is a homogeneous Chalcolithic tradition with an unusual distribution that covers the Zagros Mountains from northwest to Central Zagros in Iran (Henrickson and Vitali 1987: 36-37). The tradition was named for the place where it was first found, Tepe Dalma in Azerbaijan (Hamlin 1975). Research projects in northwestern Iran, found Dalma ware in the areas around Lake Urmia. Hand-made Dalma pottery includes impressed, monochrome and bicolor motifs, red-slip, and plain wares (Henrickson and Vitali 1987: 39; Hamlin 1975: 117). Pottery assemblages belonging to this tradition were discovered during excavations in the Central Zagros region of western Iran such as Godin sites (Kermanshah Province) and the Seh Gabi Tepe Mound B (in Hamadan Province), (Henrickson 1985: 69; Young and Levine 1974: 2). Dalma-like ceramics were found in parts of northern Mesopotamia such as Nuzi and Tepe Gawra, as well as in Azerbaijan (Hamlin 1975: 120). Dalma Ware was also found in northwestern Iran with the Pisdeli pottery and in the Central Zagros region with the Seh Gabi pottery (Godin IX). In the Central Zagros region, the Chalcolithic period continues with Godin VIII, VII, and VI periods.

Plum Ware Tradition

Plum ware in the western part of the north of the central plateau (like Qazvin province) is similar to the Godin VII ware in western Iran. This pottery is brittle, coarse, and semi-coarse as well as low-tempered and is limited to cylindrical jars and bowls (Majidzadeh 2010: 37). Three pottery groups are recognized: coarse-tempered, fine-tempered plain, and painted pottery (Majidzadeh 1977: 53). Jars are decorated only on the outer surface and bowls are decorated on both inner and outer surfaces with dark colors. Plum wares are decorated in two painted and appliqué decorations. More than 90 percent of the decoration is made up of numerous parallel rows or zigzags (Majidzadeh 2010: 38). Plum ware is comparable to Godin VII ceramics as is exemplified by jars with molded decoration on the rim (Voigt and Dyson 1992: 161).

Discussion

Absolute dating obtained from the Dalma period is varied, sometimes contradictory and even raises the issue of the chronological gap (Table 2). The radiocarbon dating from several Dalma sites has been utilized, and some sites from the Dalma culture date back to the pre-4200 B.C. period. The radiocarbon dating includes 4680-4336 B.C. and 5206-4688 B.C. (Table 2). Henrickson and Hamlin mentioned these dates with different results and presented the date of 4125±84 B.C. from Dalma Tepe in Azerbaijan (Hamlin 1975: 119, Table 2); and 4490±92 B.C from Seh Gabi Mound B in Dalma layer (Henrickson 1983: 528, Table 71); as well as 3675±80 B.C. from Seh Gabi Mound B in the Central Zagros region (Henrickson 1985: 70). These dates present a contradiction. The dates presented by Henrickson (Table 1) and Hamlin show the temporal gap with the Hajji Firuz period. If we accept their results, the question remains how such a cultural/temporal gap before the rise of the Dalma culture should be explained, since the dating of the Hajji Firuz period is often shown from the late 7th/early to the middle 6th millennium B.C. (Table 2). Here, we have presented recent dating results that challenge earlier discussions. Thus far, most archaeologists have emphasized the existence of a time gap, which seems to require a re-evaluation.

The results of recent excavations in the Kurdistan and Zanjan provinces provide data for a re-evaluation of the gap. In the excavation of Tepe Kalanan in Bijar, east of the Kurdistan province, radiocarbon dated from the late fifth to the early fourth millennium B.C. (Table 3)[1], a late Chalcolithic material culture (Godin VII) was discovered dating back to the late Chalcolithic period (Saed Mucheshi *et al.* 2011: 52)[2]. Similar materials were found associated with some of the bottom layers. Comparable materials were also discovered during excavations at Sohachai Tepe in the Zanjan province, east of the Kurdistan province dating back to 4252-4038 B.C. (Rahimi Sorkhani 2008: 193). The results obtained from these two sites indicate similar or earlier dating of the Dalma tradition in western Iran. In addition to these late Chalcolithic sites, in the Sarcham locality in the southwestern part of Kurdistan province, dating back to the Seh Gabi period, we have obtained radiocarbon dates running from 4500 to 4200 B.C. (Saed Mucheshi *et al.* 2017a). The Seh Gabi period occurs after the Dalma period and before Godin VII (Table 1).

In addition to the Kalanan and Sohachai excavations at Sarcham, the relative dating presented by the excavators of Godin for the Dalma phases seems to be more realistic than the propositions from Hendrickson (1985). According to the former the Dalma phase is considered to have lasted from 4500 to 4000 B.C., and they added that it could have even been earlier than (Young and Levine 1974: 15). According to the relative chronology table, Frank Hole suggested a date of 6100-5400 B.C. for the Hajji Firuz period and 5200-4700 B.C. for the Dalma period as the Azerbaijan region is concerned, and a date of 4500 B.C. for Kangawar (Hole 1987a: Table 2). Voigt and Dyson (1992: Fig. 1) dated the Dalma period to the first half of the 5th millennium B.C. Similarly, Hamlin dated the Dalma period

[1] Radiocarbon dating performed at Queens University, Belfast, Northern Ireland.

[2] There are some similarities between the pottery of Godin VII and Dalma period which indicate the continuity of some of the features of the pottery after the Dalma tradition.

in northwestern Iran and in Central Zagros to the first half of the 5th millennium B.C., assuming as far as Azerbaijan is concerned an extension of the same pottery tradition running until the 4th millennium B.C. (Hamlin 1974: 277). Hamlin noted a radiocarbon date of 4215 B.C. from her excavation (Hamlin 1975: 119, Table 2). However, her datings for the Hajji Firuz and Dalma periods (5000-4000 and 5600-5100 B.C. respectively) were solely based on relative chronology (*ibid.*: 120). Radiocarbon dating shows a series of dates, 5982-5621 B.C., 5978-5641 B.C., 6357-5990 B.C., 6026-5754 B.C., 5982-5672 and 7294-6241 B.C. (Table 2), while the researchers have presented almost different results for the Hajji Firuz period, which includes 5978-5641 B.C. (Lawn 1974), 4920-5537 B.C. for the Hajji Firuz layer at Hajji Firuz (Voigt 1983: 348-349), 5850-6084 B.C. for Baranu Tepe, and 4976-5297 B.C. for the Hajji Firuz layer of Yanik Tepe (*ibid.*: 349). The above-mentioned dates bring both Hajji Firuz and Dalma traditions closer in time. Recent dates confirm one of the previous dates for Dalma Tepe, namely 5206-4686 B.C., a date based on a sample of ashy material from Dalma Tepe (Stuckenrath 1963: 90; Hole 1987a: Table 2).

From the end of the 5th millennium B.C. to the beginning of the 4th millennium B.C., there is an increase in the number of settlements in most parts of western Iran like the east of Kurdistan Province (Saed Mucheshi 2011), which might be because of an increase in precipitation in the mid-Holocene period (Zarins 1992: 57; Lambeck 1996: 43; Van Zeist and Wright 1963; Stevans *et al.* 2006: 494; Wasylikowa *et al.* 2006: 489-490). In this region, there apparently are no Neolithic period sites, but there are Neolithic sites represented by the Hajji Firuz tradition in the surrounding areas such as east Azerbaijan, west Azerbaijan, Ardebil and Zanjan provinces. Many settlements have also been recognized in areas near northwestern Iran. These areas include west Central Zagros with the J ware tradition[3], eastern Zagros with the Shahnabad ceramic tradition, north central Iranian Plateau with the Cheshmeh Ali ceramic tradition, Halaf and Ubaid cultures in northern Mesopotamia (5200-4400 B.C.) and the Late Ubaid (Table 1) tradition (4400-4100 B.C.) (Ur 2010: 339), eastern Anatolia with the Ubaid ceramic tradition (5300-4500 B.C.) (Stein 2012: 125) and Trans-Caucasia in northern Azerbaijan area with the Sinoi material cultural (Chataigner *et al.* 2010: 378); all of these are associated with settlements from the so-called 1000-year gap period. However, as for the east Azerbaijan and west Azerbaijan provinces in northwestern Iran, as well as the Zanjan and Kurdistan provinces in western Iran, a distinct tradition has so far not been suggested for the (partial) bridging of this presumed cultural gap.

With the given framework, we need to find an explanation for the question: If the absence or scarcity of sites are due to the climatic conditions of that time span, then why this has not been the case for areas likes Azerbaijan during the same late Neolithic period?

[3] J ware tradition belongs to the early Chalcolithic period in Mahidasht, in the western part of the Central Zagros and adjacent to the Mesopotamia (Tab. 1). This ware is stratified above the late Neolithic phase layers and below the early Siahbid phase levels characterized by Black on Buff and Dalma impressed potteries at Tepe Siahbid in this area. J decorated wares are a thin, fine, tan to reddish-buff ware and usually red- or black-slipped, or both. This pottery assemblage is generally similar to Mesopotamian Halaf fine painted ware in terms of vessel form and decorative style (Henrickson 1985: 69).

Given the occurrence of late Neolithic sites in north-western Iran, it is impossible to demonstrate a lack of good climate conditions in the time period running from the late Neolithic to the Chalcolithic.

The possible answer to this question can be found when we reexamine when the Dalma tradition began. From its significant cultural layers in the northwest and western parts of Iran, as well as the existence of traditions other than Dalma in the surrounding areas, it may be deduced that the Dalma tradition is probably native to the region. If the origin of this tradition had been outside this region, we would have considered the probability of a chronological gap between the Hajji Firuz tradition and the Dalma tradition.

Now, the question is that if the Dalma culture was a native tradition separated from Hajji Firuz by a millennium long period from where did the Dalma people come and how did they become a dominant force in the region? Answering these questions based on previous data is neither possible nor correct. A reexamination of the history of the Dalma tradition and the place where it originated, are issues to be more thoroughly examined in light of the recent data. The Dalma tradition could not have been derived from regions outside the northwest and west of Iran, since its culture was not indigenous to the surrounding areas where distinctive traditions existed.

New archaeological excavations at the late Chalcolithic sites in western and north-western Iran indicate that the late Chalcolithic period is older than what is mentioned by Henrickson (1985) and subsequently, the dating of Dalma is also older than previously thought. The dating obtained through archaeological excavations carried out at Tepe Kalanan / Bijar County in northeast Kurdistan is slightly older than 4000 B.C. (Saed Mucheshi *et al.* 2011) (Table 3). However this site, dating back to the late Chalcolithic (Godin VII), yields no typical Dalma ceramics. Therefore, it can be suggested that in case there had been older layers, the presence of Dalma pottery would have been expected. Due to the archaeological surveys in the surrounding areas, Dalma sites with painted ceramics were discovered (Saed Mucheshi 2011: 180). The question is whether they are older than Tepe Kalanan, dating back to the end of the 5th millennium and the beginning of the 4th millennium B.C. This hypothesis, based on relative and absolute dating, is strengthened by recent results from research in Azerbaijan and Kurdistan regions. From the Dalma layer at Kul Tepe, Hadishahr, eastern Azerbaijan province, dates of 5000-4500 B.C. have been obtained (Adedi *et al.* 2014: 60), and from the lower (Dalma) layers at Tepe Gheshlagh, Bijar, 22 km east of Tepe Kalanan, a date of 5500 B.C. (Sharifi and Motarjem 2018). In this site the Dalma pottery tradition is represented by a 9 m thick deposit of cultural materials underlying the Seh Gabi tradition (*ibid.*: 97). The interesting point concerning the chronology of Kul Tepe in Hadishahr is that Dalma impressed wares have not been discovered at this site (Abedi *et al.* 2014: 38), although this tradition represented a 500 years long period. Based on the finds from Dalma Tepe (Hamlin 1975) and Tepe Seh Gabi, the impressed ware tradition is more recent than the painted pottery from Dalma (Henrickson 1985: 69). In addition to the results obtained from the Azerbaijan and Kurdistan sites, the data obtained through investigations and surveys of the adjacent regions also point to a longer period and older date for the Dalma tradition in these regions. The archaeological excavation of Lavin Tepe in northwestern Iran did not lead to absolute

dating, but relying on the pottery morphology the excavators claim that the gap between the Hajji Firuz and Dalma periods was short or non-existent (Hejebri Nobari *et al.* 2012: 102). Some pieces of evidence from the north central Iranian Plateau, the northern part of Mesopotamia, and the Central Zagros will be assessed as follows.

The northern central plateau of Iran

The excavations conducted by Yousef Majidzadeh in the north central plateau of Iran are considered a turning point as they allow us to address the questions about the discontinuity between the Hajji Firuz and Dalma periods. Majidzadeh, without mentioning the chronologies presented for the Dalma culture, appropriately stressed the presence of plum ceramics in Ghabristan I, in pre-Sialk III contexts, which bear many similarities with the late Chalcolithic period (Godin VII) of Zagros (Voigt and Dyson 1992: Table 1). In his opinion, Tepe Ghabristan represents two imported wares in the cultural sequence of the central plateau: the plum ware phase and the gray ware phase (Gh. III 8-7) (Majidzadeh 1981: 141). The Plum Ware in layer I of Tepe Ghabristan (Majidzadeh 1978: 94) embodies a period between layers II (Cheshm-e Ali wares) and III of Tepe Sialk, which does not match the dating of Dalma Tepe in the Azerbaijan region. In this region, the plum ware has also been discovered at Tepe Sialk, Morteza Gerd, Tepe Mahmoudieh, and Qara Tepe in Qom, in addition to Tepe Ghabristan (Table 4). Considering the similarities between the ceramics from Tepe Kalanan and Sohachai Tepe and Plum Ware from Tepe Ghabristan and Ozbaki III-IV and Maral Tepe (Majidzadeh 2010: Table 1), while bearing in mind the absolute dating from Tepe Kalanan, it seems that the Plum Ware tradition is corresponding to that of the late Chalcolithic period in Central Zagros and in Kurdistan and Zanjan provinces. The Dalma ceramic tradition, however, seems to be older than the Ghabristan I tradition. The Zanjan region where recent archeological surveys resulted in the discovery of similar potteries can be proposed as one of the communication pathways. The number of sites from this period in the Abhar Rud basin of the Zanjan region points to population growth and to an increase in settlements compared to the previous period (Khosravi *et al.* 2009: 39; Khosravi *et al.* 2010: 33).

The issue addressed here is that the Plum ware tradition, which developed before Sialk III, is older than the last quarter of the 5th millennium B.C., which was previously regarded as the Dalma tradition phase, and may even date back to an earlier time. Meanwhile, it should be mentioned that the entrance of the Plum ware tradition into the central plateau was not exactly contemporaneous with its formation in the northwestern Iran. Furthermore, it can be argued that this tradition was probably first rooted in the west of Iran and then entered the central plateau region. Therefore, every date obtained from the Plum ware tradition is not necessarily contemporaneous with the occurrence of the Dalma pottery tradition but may be later than the Dalma, Seh Gabi and Pisdeli phases. Therefore, the Plum ware tradition was prior to the end of the 5th millennium or the beginning of 4th millennium B.C. According to Majidzadeh (2010: 317), the early 5th millennium B.C. was the beginning of the Plum ware tradition, which means rather older than the absolute dating (4200-3700 B.C.) proposed some years ago for the Dalma tradition (Henrickson

1985). Coningham *et al.* (2006: 33) suggested a date of 4700 B.C. for the end of the Sialk II period (the so-called Transitional Chalcolithic period, 5500-4700 B.C.), which is older than the dates assigned to the Dalma tradition up to that time. If we consider the more recent dating suggested by Fazeli Nashli, the date in question is still slightly older than the time span of 4200-3700 B.C. The other absolute dating suggested by him for the end of Sialk II is 4300 B.C. (Fazeli Nashli *et al.* 2005: 79; Fazeli Nashli *et al.* 2004: 22). In addition, it seems that an earlier date should be considered for the beginning of the Dalma period in northwestern Iran.

Mesopotamia

Like the northern part of the central Iranian plateau, the data on the Dalma ceramic tradition from Mesopotamia do not correspond to the previous chronological frameworks and subsequently the gap between late Neolithic and early Chalcolthic. The Dalma ceramics associated with the Ubaid and Halaf potteries in this region are not contemporaneous with the previous dating of the Dalma tradition (the last quarter of the fifth millennium B.C. according to ^{14}C dates). Joan Oates has noted lack of a clear relationship between the different Ubaid collections from Mesopotamia and remains found in Iran (1983). Stating that radiocarbon samples cannot also provide us with much information, she pointed out that at least some data indicate that the Ubaid III chronology is based on Dalma impressed ware in Abada, Kheith Qaseim and Serik. It should be emphasized that Abada I/II has not been a long-term settlement and belongs to Ubaid III and late Halaf and the occurrence of Dalma potteries among them, encompassing several centuries of history, is questionable. The Ubaid ceramics are also associated with impress Dalma ware in Mahidasht (Levine and McDonald 1977: 43; Levine and Young 1987: 33). Levine and McDonald also faced this question and argued that the two radiocarbon samples from Dalma Tepe (ca. 4000 B.C.) apparently belonged to more recent time (*ibid.*: 45). Furthermore, Joan Oates has also pointed to the unacceptability of that date for the Dalma period (Oates 1983: 261).

I would like to propose that similar to the north central plateau, where the Plum ware has been recovered from pre-4000 B.C. contexts and considered the date for the Dalma tradition in this region, the spread of the Dalma pottery in Mesopotamia started to some extent before that time. It is also possible that the Dalma ceramic has had a longer tradition going back to a time posterior to the Neolithic period in the Azerbaijan region having interactions with the adjacent regions during different phases. This suggested by the radiocarbon data obtained from northern Mesopotamia indicating a time span of 5200-4400 B.C. (Ur 2010: 339) or 5800-4200 B.C. (Stein and Özbal 2007: 331) for the Ubaid tradition. In the chronology presented recently, the Ubaid III and IV date back to 5300-4500 B.C. (Stein and Alizadeh 2014: Table 1). The discovery of the Dalma potteries in Ubaid III and IV contexts in Mesopotamia demonstrates an earlier date for this tradition in both Mesopotamia and Iran. It should be noted that Henrickson and Vitali (1987: 37) and Henrickson (Table 1) mention the contemporariness of Dalma tradition with Ubaid 3 and the first part of Ubaid 4 in Mesopotamia.

The Central Zagros Region

The excavations undertaken at Tepe Godin and Seh Gabi in the Central Zagros region, have given proof that the remains of the Dalma period date back to 4100-3700 B.C. (Henrickson 1985: 70). In the chronology proposed by Frank Hole, the Dalma period in the eastern Central Zagros (Kangavar) goes back to the early village period (Hole 1987a: 49), whereas in the western Central Zagros (Mahidasht) the same tradition belongs to the middle village period (*ibid.*: 48). In other words, due to a direct relationship with the northwest region, the Dalma period began earlier in eastern Central Zagros than in its western part. This is the main reason leading to the conclusion that the Dalma tradition was introduced during the Early Chalcolithic in the Azerbaijan region (Hole 1987b: 84) and during Middle Chalcolithic in the Zagros region (Henrickson 1985). This difference in chronology in a limited area of the Central Zagros is an indication of the long-term prevalence of this tradition from the northwest of Iran to Central Zagros in the south. First it penetrated into the eastern region of Central Zagros and then into the western part of it.

The Caucasus

In 2004, a French-Armenian mission located the site of Godedzor in the Vorotan valley of southern Armenia. This site contained painted pottery sherds similar to the final phase of Ubaid as well as a large number of chaff-tempered sherds. Godedzor provides a new insight into the relationships between the Caucasus and the northern part of the Near East during the 5th millennium B.C. In addition to this site, the Dalma potteries have also been found in several sites such as Ilanly Tepe, Ezgenni Tepe and Alikemek Tepe (Chataigner *et al.* 2010: 377). It appears that the Godedzor settlement belongs to the communities related to the Ubaid tradition developed in the peripheral parts of the Syrian-Mesopotamian villages during the fifth millennium B.C. The appearance of Ubaid was associated with the development of settlements in the southern Mesopotamia during Ubaid III and IV (*ibid.*: 390). The date proposed (see above) for Ubaid III and IV does not at all match the radiocarbon date at the late fifth millennium B.C. proposed for the Dalma tradition. Hence, it is possible that the Dalma tradition penetrated into that region at earlier times.

Similarities between the ceramic traditions from Dalma and Hajji Firuz

With a general look at the ceramics from the Hajji Firuz and Dalma cultural traditions, some similarities between these traditions could be inferred. However, there has not been well-organized research in this field, and I do not attempt to discuss here all similarities and differences that may occur in a specific material like pottery from both traditions. This subject itself requires a comprehensive study, all the more as the time difference between these two traditions means that although the continuity between these traditions is suggested, they still bear some differences with each other. In both Hajji Firuz and Dalma

ceramics, streaky painted pottery, horizontal bands of lozenges, the striated designs, striped zigzags motifs, vessels similar to husking-trays, and vessels with knobs, bull's head etc. can be observed (Fig. 2 and 3). similar painted pottery finds from Tepe Hajji Firuz and Tepe Umm Dabaghiyah (Kirkbride 1972) as indicators of the Hjji Firuz tradition as well as from Kul Tepe, Tepe Tazehkand Hamadan, Tepe Godin, Tepe Namshir (Fig. 3) and Tepe Kalanan (Saed Mucheshi 2011: Fig. 21 and 23), as indicators of the Dalma tradition, have been compared. In the excavation of Tepe Gheshlagh in Bijar, husking-tray like vessels have been reported from the Dalma layers (Motarjem and Sharifi 2015: 31).

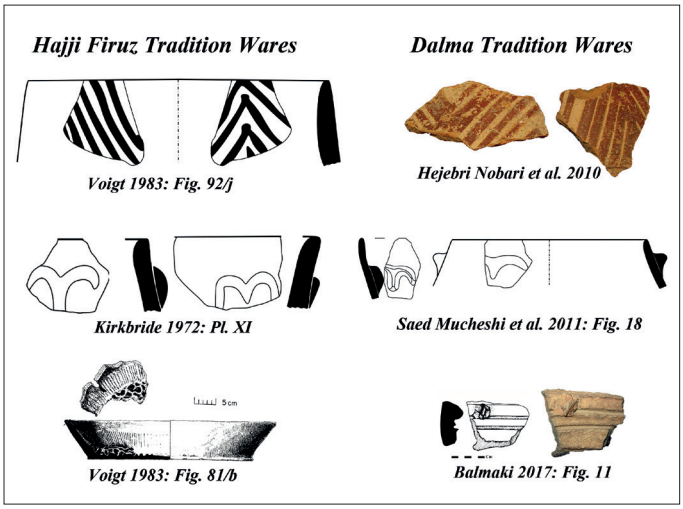

Fig. 2. Comparison of the Hajji Firuz and Dalma tradition wares.

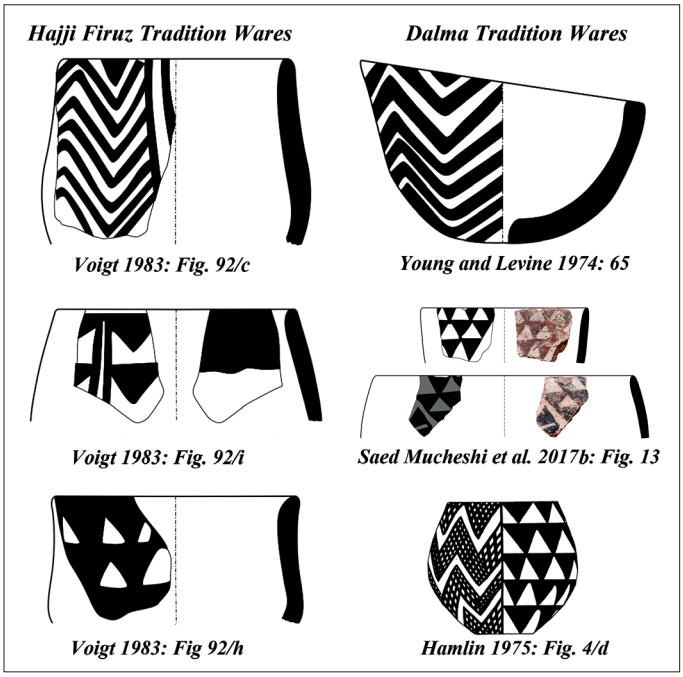

Fig. 3. Comparison of the Hajji Firuz and Dalma tradition wares.

Conclusion

Two subjects have been addressed in the present study leading to (tentative) conclusions. First, based only on the continuity of pottery wares, the Dalma tradition probably has followed the earlier Hajji Firuz tradition without interruption. As a result, contrary to what was thought in the past, these traditions were not separated by a millennium-long gap. It is possible that the suggested time span is the consequence of the paucity of investigations. Perhaps the continuity of the Dalma tradition and the previously obtained wrong and inconsistent ^{14}C results are the main reason for this incorrect conclusion.

The scientific analyses of some pottery studies can help us to explain the similarities observed between the Hajji Firuz and Dalma Wares. The similarities discovered in these two wares occurring in the same geographical setting and stratigraphic context probably demonstrate temporal and cultural continuity. No interdisciplinary studies have aimed to address the subject of cultural discontinuity between these two periods. Moreover, no explanations have been given for this discontinuity regarding wide area spanning northwestern Iran and some parts of western Iran. Therefore, no traditions and sites have been suggested for this time span during the Chalcolithic period. Also, there are Neolithic sites like Hajji Firuz in the Azerbaijan region, what indicates that the climatic conditions were not so hostile to prevent formation of sites in a time span of approximately one thousand years. Another issue that can contribute to the current discussion is that if we suppose there is a millennium long time gap between the Hajji Firuz and Dalma traditions, then we have to answer the question of "Where did the Dalma people come from?" On the other hand, if we value the existence of this temporal gap, this question remains unanswered. When looking at the surrounding areas, it is obvious that the Dalma people could not have originated from anywhere other than areas where the relevant sites were located and the traditions were indigenous. The Halaf and the Ubaid traditions were prevalent in north Mesopotamia, as was the Sialk tradition in the north of the central plateau, the J ware, Shahnabad and the Maran traditions in Central Zagros, and the Sinoi tradition in the Caucasus region. While the Dalma pottery found in these regions was not indigenous, but originated from local cultural contexts where the Dalma tradition had been formed. The hypothesis of an indigenous Dalma tradition could be taken for the temporal and perhaps cultural continuity of this tradition in northwestern Iran. In addition to the evidence presented here, we introduced a number of pottery decorations common in the Neolithic Hajji Firuz tradition as well as in the Chalcolithic Dalma tradition. Furthermore, considering the radiocarbon dates obtained from the later phase of Dalma in the east of the Kurdistan and Zanjan provinces and some dating for the Dalma and Hajji Firuz traditions indicating the continuity between these two periods, the chronology of the Chalcolithic period in Central Zagros and northwestern Iran should be revised. Finally, it seems that the Dalma tradition is somewhat older in these regions than was expected (?) and should cover a greater part of the 5th millennium B.C.

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Table 1. Chronological summary of Zagros Chalcolithic and related sequence (after Henrickson 1985: Fig. 21).

	Masca B.C. approx.	Libby B.C.	Mahidasht: Tepe Siahbid	Mahidasht: Chogha Maran	Kangavar: Godin Tepe Seh Gabi	Solduz	Mesopotamia: North	Mesopotamia: South	Khuzistan: Susiana	Khuzistan: Deh Luran	Libby B.C.
Late Chalcolithic	3400	2700			Period VI		Gawra	Middle Uruk			
	3500	2800		?			XI				
	3600	2900					XIA			Sargarab	3000
	3700	3000		Maran phase 105-116 302-303	Period VII			Early Uruk			
Late Middle Chalcolithic	3800	3100							Susa A		
	3900	3200			Period VIII		XII			?	
	4000	3300		?				Terminal Ubaid			
Middle Chalcolithic	4100	3400	Late Siahbid phase 101-102				XIII		Late Susiana	Farukh	
	4200	3500			Period IX (Seh Gabi)	Pisdeli					3500
	4300	3600						Ubaid 4		?	
	4400	3700		Early Siahbid Phase 304-305							
Early Middle Chalcolithic	4500	3800	Early Siahbid Phase 201-202				XIV		Middle Susiana 2-3	Bayat	
	4600	3900			Period X (Dalma)	Dalma					
	4700	4000					XV XVI				4000
	4800	4100					XVII	Ubaid 3			
Early Chalcolithic	4900	4200	J Ware Phase (203-206)	J Ware Phase (306)			XVIII			Mahmeh	
	5000	4300			Shahnabad		XIX		M.S. 1		
	5100	4400								Khazineh	
	5200	4500							Early Susiana	Sabz	
	5300	4600			?			Ubaid 2			4500
	5400	4700					HALAF			CMT	
	5500	4800	?	?				Ubaid 1	Archaic Susiana I II III		
	5600	4900			?	?				Surkh	
	5700	5000									
Late Neolithic	5800	5100	Late Sarab 103-106	(Late Sarab (below 306)			CMT	SAMARRAN		Sefid	5000
	5900	5200			?	Hajji Firuz					
	6000	5300					HASSUNAN		Formative	M. Jaffar	

Bendebal 27-11 (Susiana)
Jowi 17-11 (Susiana)
Jaffarabad 4-6 (Susiana)

Table 2. Summary of radiocarbon results from Dalma and Hajji Firuz Traditions (calibrated by Oxcal 4.3).

Site name	*Lab. Ref.*	*Sample ID*	*Material Description*	*^{14}C Age (BP)*	*1 Sigma Ranges, Cal BC (68.3% probability)*	*2 Sigma Ranges, Cal BC (95.4% probability)*	*Cultural period*	*References*
Hajji Firuz	P-1843	H12 (6)		6870±100	5871-5663	5982-5621	Hajji Firuz Period	Hole 1987a: 60, Tab. 3
Hajji Firuz	P-502	Operation V:4	Ash	6895±83	5880-5714	5978-5641	Hajji Firuz Period	Stuckenrath 1963: 90
Hajji Firuz	P-455	Stratum D-15 (Basal Starum)	Charcoal	7269±86	6222-6060	6357-5990	Hajji Firuz Period	Stuckenrath 1963: 90
Yanik Tepe	P-1244	P7		7035±69	5990-5846	6026-5754	Hajji Firuz Period	Voigt 1983: 349
Yanik Tepe	P-1243	P5		6926±80	5888-5730	5982-5672	Hajji Firuz Period	Hole 1987a: 60, Tab. 3; Voigt 1983: 349
Yanik Tepe	P-1244			7274±71	6214-6074	6341-6006	Hajji Firuz	Voigt 1983: 349
Baranu Tepe (Sayid Hammadani)	Shell Development Co.	NQ-6	Charcoal and ash	7800±210	7026-6461	7294-6241	Hajji Firuz	Hole *et al.* 1969: Tab. 78
Seh Gabi Mound B	SI-4915	G21 67; late level 6		5625±80	4526-4366	4680-4336	Dalma Period	Henrickson 1983: Tab. 71
Tepe Dalma	P-503	Operation IV: 4a	Ashy soil	5986±87	4995-4778	5206-4686	Dalma Period	Stuckenrath 1963: 90; Hole 1987a: Tab. 3

Table 3. Summary of radiocarbon results of Tepe Kalanan (calibrated by Oxcal 4.3).

Lab. Ref.	*Sample ID*	*Material Description*	*^{14}C Age (BP)*	*Delta ^{13}C*	*1 Sigma Ranges, Cal BC (68.3% probability)*	*2 Sigma Ranges, Cal BC (95.4% probability)*	*Cultural period*	*References*
UBA-17199	KaSi 02, Tr. 1, C.02 (Top layer)	Animal bone (Scapula of cattle)	4978±32	-21.5	3782-3709	3912-3661	Godin VII (Late Chalcolithic)	Saed Mucheshi 2011
UBA-17200	KaSi 06, Tr.2, C.06 (Middle layer)	Animal bone (Vc of cattle)	5131±31	-19.4	3976-3819	4032-3803	Godin VII (Late Chalcolithic)	Saed Mucheshi 2011
UBA-17201	KaSi 08, Tr.3, C.08 (Low layer)	Animal bone (Metacarpal of cattle)	5146±44	-17.5	4034-3818	4043-3802	Godin VII (Late Chalcolithic)	Saed Mucheshi 2011

Table 4. The relative chronology of the Iranian Central Plateau (after Majidzadeh 1981: 142).

Periods		*Tepe Hissar*	*Tepe Sialk*	*Morteza Gerd (Cheshmeh Ali)*	*Ghabristan and Zagheh*	*Qara Tepe*	*Tepe Mahmoudieh*	*Ismailabad*	*Qumm Region (Qara Tepe)*
Late Plateau	B	IC	Gap		Gh. IV 3-1	Plum-Ware	Plum-Ware		
	A		III 6-7a		Gh. IV 6-4				
Gray-Ware		Gap	Gap		Gh. III 8-7				
Middle Plateau	C	IB	III 4-5	X	Gh. III 10-9				X?
	B	IA	III 2-3	Ch. Ali IB X	Gh. I 13-11 C				
	A		III 1	Plum-Ware B	Plum-16-14 B				
			Plum-Ware A	Plum-Ware A	Ware 19-17 A				Plum-Ware
Early Plateau	B		II	Ch. Ali Upper IA	Late Ch. Ali	X	X	X	X
	A		I	Ch. Ali Lower IA	Early Ch. Ali				
Archaic Plateau					Zagheh Ware				
					Neolithic belt				

THE BURNT ARCHITECTURE FRAGMENTS OF THE ILIPINAR HÖYÜK PHASE VI HOUSES

Ben Claasz Coockson*

Abstract

The excavation of a series of houses of Ilıpınar Phase VI unearthed large numbers of architectural mud-plaster fragments that were heavily burnt and as such 'baked'. The plaster originally covered wooden construction elements that were burnt out, leaving fossil shapes. In this article an attempt is made to reconstruct a 'typical' house and to place the fragments in this construction.

Introduction

During the Ilıpınar Höyük Excavation campaigns 1995-2001 the remains of 15 juxtaposed houses were excavated; these constituted a quarter segment of a series of buildings forming a full circle. The buildings belong to Ilıpınar VI phase and date to a period about 5700 BC (Claasz Coockson 2008, Roodenberg 2008). All of the houses burnt down in one dramatic event. The villagers did not have a chance to save their household items from the houses. We can presume that no villagers were killed by the fire; no human skeletons or 'cremated' bones were found inside the rubble of the collapsed houses. On the other hand, in the rubble that filled the interior of these houses numerous reddish or orange burnt mud fragments were found. Many of these were architectural fragments in the sense that have on at least on one side impressions of wood used in the construction of the houses. Most of these impressions are of round-wood sticks or beams, some are of planks or split-wood. This article deals with the architectural remains of the houses; more specifically it focusses on the mud-plaster that covered the wooden elements of their construction that, after the fire and collapse, left fossil shapes in the red or orange burnt mud fragments.

Generally speaking, the archaeological evidence indicated that each house had two wooden floor levels with a total surface of 30 to 40 m² and a wooden roof construction covering an area of circa 18 m². All these wooden constructions were coated by a thick mud-plaster layer. During the fire all the material of the superstructure including the roof construction collapsed onto the ground-floor. This ground-floor also collapsed itself and the remains fell circa 70 cm. into the open space and formed a more or less solid layer with the impressions of the burnt-out timbers 'fossilised' in them. The walls of the houses were made of solid mud-brick; there is no indication that a timber frame construction existed in any of them. The mud-brick walls stood straight on the surface of the höyük

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Fig. 1. Workers clean large fragments of collapsed roof debris with parallel impressions of round-wood structure.

without a stone or other footing. A sample of about 430 of those fragments with wood impressions of the ground floor and supertructure timberwork was collected during the excavations and recorded; measured and sketched and sometimes photographed. From this collection a representative selection is described in this article.

The ground-floor construction

The best evidence for the construction of a ground floor was provided by House 13 which we use here as a representative for the construction of the floors of the other houses. It was in the form of a suspended floor set at about 70 cm above the actual ground level. It consisted of 40 parallel lengths of mainly round-wood joists, made using quite young tree trunks with diameters that did not exceed 10 cm. while the smallest diameter was about 4.5 cm.

A slight variation in the ground floor timberwork system as used in most of the houses was seen in the center section of House 13 which also included two sets of either rectangular planks or split-wood set at regular distances from each other.

These clusters are located below the 'tables'[1] that were attached to the two vertical posts in that building. Since only one side of the wood used is preserved in the plaster cover it is impossible to say if they were planks or squared timbers rather than split-wood, cleaved out of thicker pieces or lengths of vertically-trimmed round-wood. It is also not clear why these 'shaped' pieces were used in relation to the tables and the two central posts.

The ends of these floor joists were incorporated into the opposing walls that formed the outer and the inner faces of the house structure. A mud fill of about 1 cm was pushed in place from the top, between these lengths of timber to make an even sub-floor surface and this naturally extended further by gravity to form of hanging strips (see, for example, Fig. 6).

[1] Claasz Coockson 2008, 181 Fig. 23.

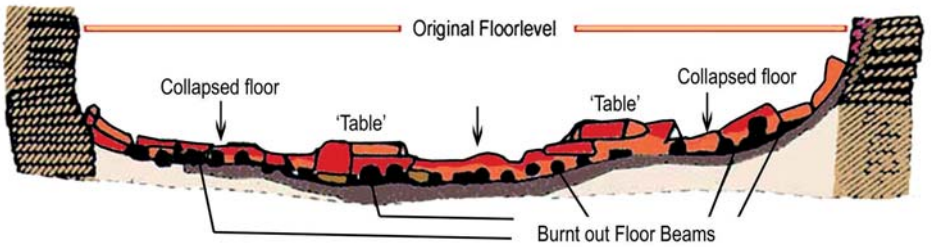

Fig. 2. Section through the collapsed suspended floor of House 13.

A thick layer of mud-plaster was then spread over the whole surface of this wood layer to form the sub-floor, a mud plaster layer being laid on top of this to form the actual floor surface. The thicknesses of these separation strips varied from 1-6 cm, and the sub-floor that covers the wooden floor construction varies in thickness from 4-8 cm. At the outer edges of the floor the mud layer was smeared straight against the room's walls. Fragment 299, for example (Figs. 10 and 11), shows on the right side the impressions of two mud-bricks with the joint between them. At the point where the floor comes to the wall the mud layer was smeared a little up against the wall to seal the junction.

Fig. 3. Section through the collapsed suspended floor of House 13.

Fig. 4. Schematic north-south section through the suspended floor of House 13.

The thin diameters of timber used for the floor cannot carry much weight without moving they would crack and fracture the mud-plaster layer on top of the sub-floor. Nor would they provide lengths sufficient to span the circa 5 m. length of the ground floor room. For this reason their ends rested on a thicker perpendicular joist running about halfway across the room and supported by mudbrick stacks in the middle of the empty

space below the suspended floor. It might be that this empty or crawl space was intended as some form of damp proofing, a protection against rising damp from the ground surface, but if so, it is surprising that the lower part of the joist beams were not covered by mud-plaster. During the fire that destroyed these buildings these wooden elements of the suspended floor burnt out and collapsed into that crawl space.

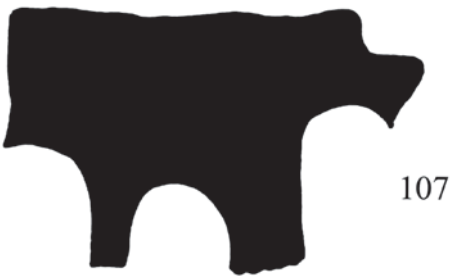

Fig. 5. Fragment 107, showing three round-wood floor-joist impressions; the mud-plaster cover layer for the sub-floor, and the plaster pushed between the joists.

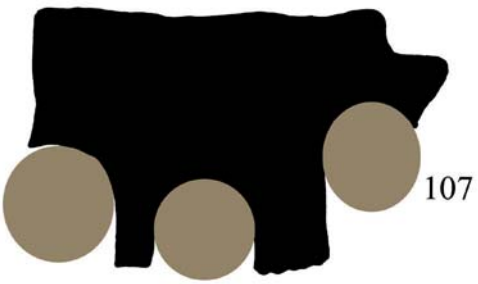

Fig. 6. The same fragment as it probably originally looked with round-wood 'lathes'; the shape of the plaster separations can only be formed by gravity; so the thick layers hanging down between the 'lathes' indicate the fragment was originally vertical. Diameter of wood: Ø 5 cm, Ø 3 cm and Ø 5 cm.

Fig. 7. The floor fragment turned over showing the beam impressions.

Fig. 8. The red burnt fill of House 8 showing the remains of the upper floor and roof material over the in situ installations and ceramics on the ground floor.

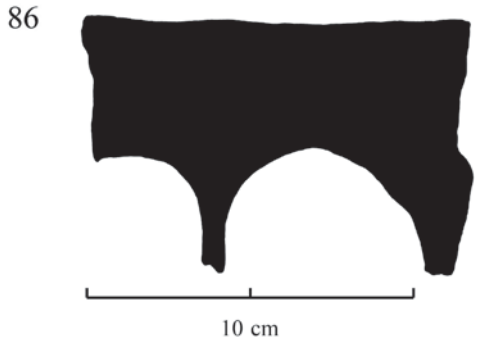

Fig. 9. A ground floor fragment showing the use of round-wood.

Fig. 10. Interior view of the sidewall of a House 33: the fingers of one hand created the horizontally placed lines that run from left to right just above the level where the floor was set against the wall bricks.

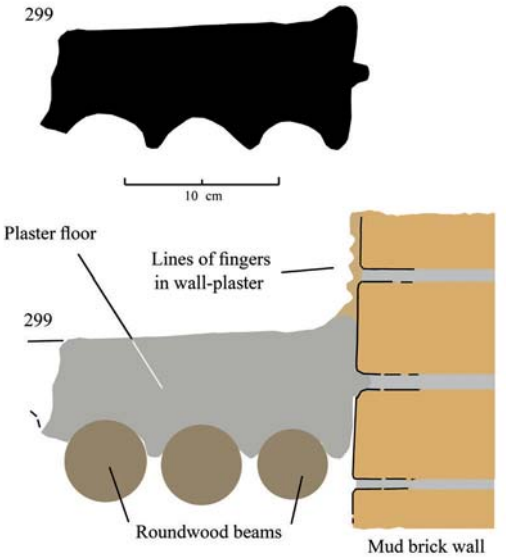

Fig. 11. Fragment 299 showing the ground floor and to the side impressions of the mud-brick house wall.

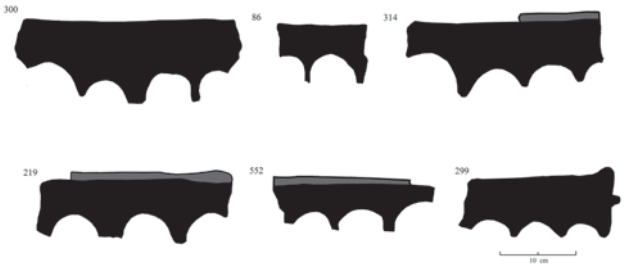

Fig. 12. Sample of floor fragments using round-wood.

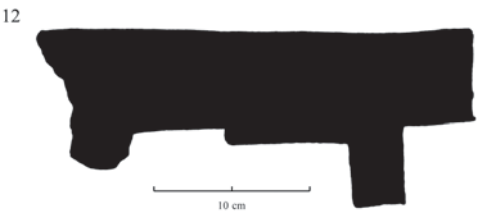

Fig. 13. A ground floor fragment from House 13 showing planks or split-wood impressions.

Fig. 14. A sample of ground floor fragments with evidence of planks (top row) and squared and split-wood impressions.

The upper floor

The excavation revealed clear stratigraphic evidence for an upper floor in the burnt houses and for the roof above, their collapse resulting in a thick layer of baked mud rubble intermingled with mud-made installations and pottery on the collapsed ground floor. The burning sequence of the wooden elements in the houses meant that the superstructure collapsed in different phases with the result that these layers contained a mixture of remains from the second floor and from the roof (e.g., Fig. 8). Therefore it might be expected to find a mixture of round-wood, planks or split wood representing the remains of the second floor and of thinner linear placed impressions of round wood signifying the remains of the roof. Any other accumulation of wood impressions might be part of the roof frame construction or of some internal dividing walls or installations.

The second floor was built in the same manner as the ground floor, with a similar wooden construction and a supporting heavy beam in the middle of the room, and covered on top by a mud layer like the one used for the ground-floor, with the difference that the bottom side was also probably plastered with mud. Fig. 15 is a floor fragment from the upper floor, showing how the flat surface has been re-plastered with a circa 1 centimeter thick layer. The lower side of the fragment is the ceiling of the ground floor room and follows the shape of the round joists. This is not a floor surface so there is no need to make it nice and flat. Fragment 10 provides a useful insight into the construction of the upper floor, having broken into several pieces along the and across the joists on account of the weight of the roof timbers that fell on them.

Fig. 15. Fragment of the second floor.

The mud coating of the ceiling can also break off with a horizontal crack as we can see from photographs of recent vernacular architectural remains, in this case, the collapsed ceiling of a room in a mid-20th century village house. If this happened it becomes difficult to distinguish the remaining impressions of the ground and second floor. If the hanging strips between the wood impressions are preserved, it can be said that they are ground-floor fragments (see Figs. 5 and 6). If these have broken off it can only be distinguished by the context in which they are found.

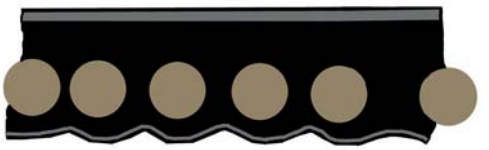

Fig. 16. Reconstructed section of the second floor.

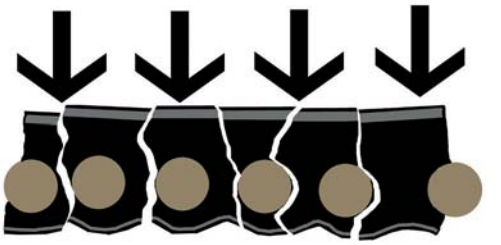

Fig. 17. Collapse caused by the weight of falling roof timbers on the upper surface.

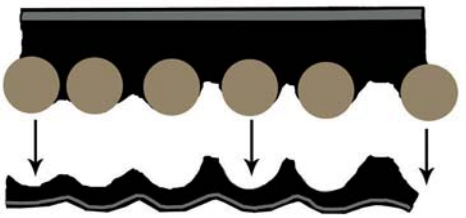

Fig. 18. Collapse of lower plasterwork
following junctions between ceiling joists.

Fig. 19. Left: underside of a collapsed ceiling of thin round-wood with a plaster layer in a 'modern' village house. Compare with (right:) fallen mud-plaster with long impressions of round-wood from House 36.

The roof construction

A large group of fragments found in the debris over the remains of the suspended ground floors have a flat or slightly curved smooth surface on one side but are strongly curved on the other, with a series of parallel round-wood impressions of a small diameter of circa 3.5-6 cm grouped in a curve so that the outer pieces almost surface through the plaster layer (e.g., Figs. 20-21). These are best interpreted as roof covering, in which a layer of mud has been applied over bundles of sticks or a thick layer of thin sticks placed perpendicular to the ridge edge, running towards the lower roof edge. These bundles probably ran over the rafters that were placed at intervals along the roof. The thick clay fill in the deeper sections of these fragments was required to get a smooth and straight surface to direct water quickly of the roof. This is a necessity because if water stays too long on the roof, the mud-plaster turns into mud and the roof will leak. However if the deep sections between the rafters were not filled up with thick plaster, gullies would form that would erode the plaster layer. This would expose the sticks and the roof would leak badly. By filling up the deep crevices a large smooth surface over the whole roof is created that suffers less from local erosion.

Fig. 20. Fragment 53: impressions of long thin round-wood.

Fig. 21. Fragment 53: curved with impressions of small diameter round-wood.

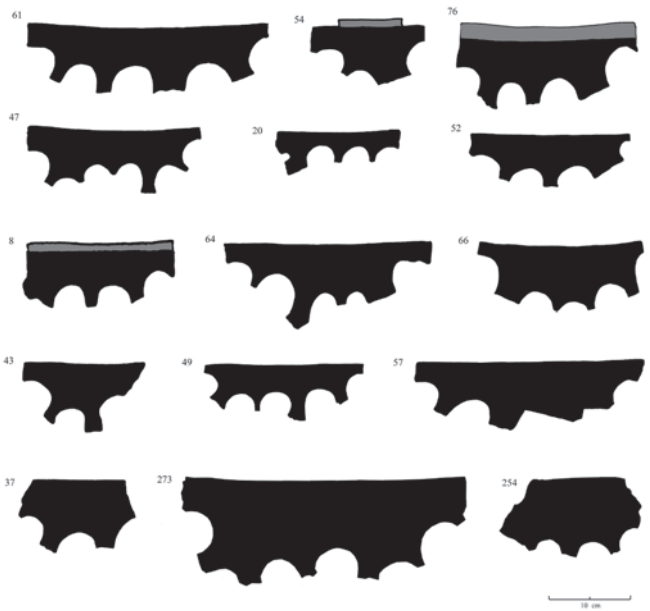

Fig. 22. Examples of curved mud pieces with thin round-wood that probably belong to the roof construction.

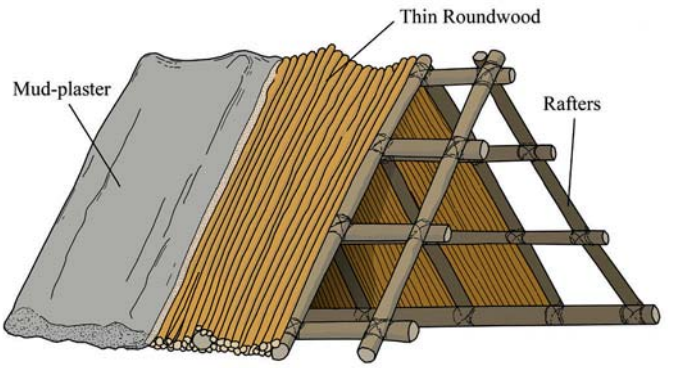

Fig. 23. Roof system reconstruction.

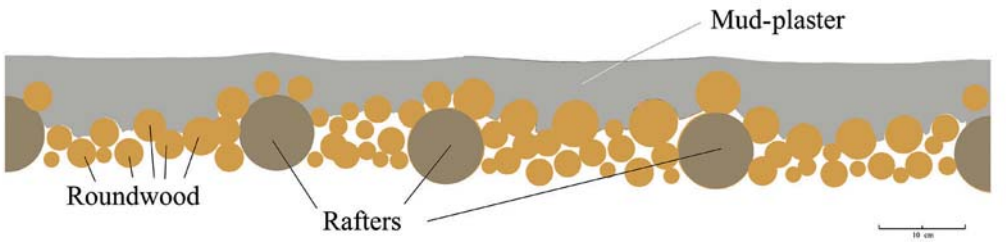

Fig. 24. Reconstruction of a horizontal section through the roof.

THE OTHER PIECES

The approximately 430 mud-based pieces recorded and processed from the burnt houses at Ilıpınar included many that cannot be identified as belonging to either the floor or roof construction floor and roof construction proposed here. First of all there are many mud-brick fragments while other fragments belong to mud made installations, such as the ovens and bins that were built on the ground- and upper floors. Quite a number of fragments are andirons, and a few parts are from the so-called 'threshold' in house 13. There are also the remains of the wooden frameworks for grinding installations and what look like parts of thin separation walls or panels. All these wooden parts are often very thinner pieces that are unsuitable for floor constructions. A large number of fragments show wood impressions but are too small to be identified. Most of these are excluded from this article and will probably never be identified.

Listing

Fragments with a plaster layer that form the surface of the floor and have round-wood impressions are represented by 47 pieces. This is a relative low number but this is explained by the fact that the whole floor of house 13 was left *in situ* during the excavations; it was later turned over and studied as seen in Fig. 4. The floor pieces that came out then have not been individually recorded.

Fragments with a plaster layer that form the surface of the floor and have impressions of planks or split-wood are represented by 66 pieces. In the schedule of the floor in Fig. 4 circa 43% of the wooden elements are planks or split-wood. In the studied collected fragments circa 58 planks and split-wood and 42% round-wood.

Fragments with a plaster layer that form the surface of the floor and have both round-wood impressions and impressions of planks or split-wood are represented by 55 pieces.

Fragments with round-wood impressions and plaster layers on both sides or with impressions of split-wood and round-wood and an irregular plaster surface as seen on the underside of the upper floor are represented by 12 pieces.

Fragments of the roof with a smooth plaster surface and a curved inner surface are represented by 28 pieces. They have multiple small stick impressions as in Fig. 21.

Fragments of the roof that are less complete or with stick, plank and split-wood impressions are represented by 31 pieces. This brings the total roof construction fragments at 59 pieces. The ratio of the floor-roof fragments is out of proportion with their areas, at 74% floor and 26% roof. However, this can be explained by assuming the ruins of the houses were left exposed to the weather after their destruction with most of the roof fragments close to the surface and so more likely to return to their original condition – mud then soil.

Fragments of mud-bricks, oven floors and other pieces that are too small or not identifiable. These are not mentioned in this article; they represent 44% (190 pieces) of the studied material.

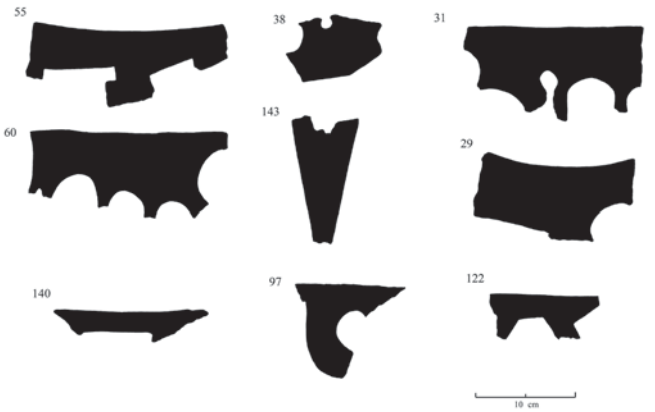

Fig. 25. Other fragments, the precise position of which cannot be identified.

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TWO ROMAN SOLDIERS IN ISTANBUL
Praetorian Guardsmen or Centurions?

Julian BENNETT*

Abstract

A relief panel exhibited in the National Archaeology Museum, Istanbul, shows two Roman soldiers in their 'field-service kit'. The relief belonged originally to a monument built in AD 108/109 near what is now the village of Adamclisi in Romania in connection with the conclusion of the Emperor Trajan's Second Dacian War. The monument had been furnished with 54 figured panels or metopes, the 49 surviving examples all with scenes relating to the Roman army at the time of Trajan and of considerable importance in Roman military studies in particular and in the field of Roman provincial 'classical' art in general. The panel in Istanbul demands greater attention as it appears to be a rare depiction of either Praetorian Guardsmen or Centurions in their 'field-service kit'.

INTRODUCTION

The Archaeological Museum in Istanbul is famed internationally for its classical-period sculpture, as with the 'Alexander Sarcophagus' and the companion 'Sarcophagus of the Mourning Women'. One particular piece displayed there, however, rarely gets the attention it deserves, namely a Trajanic-period relief sculpture of two soldiers in a naïve provincial style which originated from one of the Roman Empire's major architectural monuments and so featured in almost all text-books on Roman sculpture.[1] Its importance lies especially in how it provides *inter alia* a realistic view of the Roman soldier wearing his actual battle panoply and his off-duty dress quite different from the 'classic' view of this as exemplified by the contemporary Trajan's Column in Rome. As such the panel is without doubt one of the more important pieces in the Museum's collections, well worth detailed discussion and wider publicity.

What survives of the monument the panel came from originally is located near the modern village of Adamclisi, often rendered in English language literature as Adamklissi, and formerly Adam Kilisse ('Adam's church'), in Constanța County, a part of Romania's Dobrogea (Dobruja) region. The remains are situated some two km distant from a settlement re-founded by the Emperor Trajan as the *Municipium Traianum Tropaeum*, its

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[1] E.g., Hannestad 1986, 154-167; Kleiner 1992, 174-175; Ramage and Ramage 2015, 220-221. The primary and secondary bibliography relating to the monument is extensive.

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status as a *municipium* indicating a place organised on Roman lines with Roman citizens in the majority.[2] In this re-founded form the settlement was probably intended as the home for numbers of Trajan's veteran auxiliary soldiers after the second Dacian War of 105-106, the residents proudly calling themselves the *Traianenses Tropaeenses*.[3] For this reason scholars normally refer to the monument as the *Tropaeum Traiani* although there is no ancient authority for that name.

The surviving remains were first examined in detail in 1837 by four Prussian army officers, *Ingenieurhauptmann* H. Mühlbach, and *Hauptleute des Generalstabes* F.L. Fischer, H. von Moltke, and K.-F. von Vincke.[4] All four were on secondment to Constantinople to assist in Sultan Murad's military reforms, and while on a mission into what was then Bulgaria to inspect the existing defences of the Balkans and Danube Delta region, they studied the Roman fortifications in the area also. In doing so they visited what local people claimed was a ruined türbe, but which they realised from the sculptures lying around it was a Roman monument of some kind, possibly a cenotaph.[5] It was not until 1882-1884, however, that the Romanian scholar G. Tocilescu organised the first detailed examination of the site, with a repeat campaign in 1890 resulting in the seminal publication of the monument.[6]

However, before placing the Istanbul panel into its original context through an overview of the *Tropaeum Traiani*, it is vital to know the latter is but one of three Roman-period structures at the location. One survives today as a low earth and rubble mound 125 m to the north containing a series of concentric masonry walls with a central stone chamber. Long interpreted as a greatly reduced *tumulus* or funerary monument, more recent studies suggest it was once a *Tropaeum*-type monument akin to the *Tropaeum Traiani*.[7] The other structure is a square masonry base 250 due east of the '*tumulus*' and 250 m north east of the *Tropaeum Traiani*. This once supported an altar-type construction, measuring 12 × 12 × 6 m, an inscription on one face honouring an emperor whose name has not survived and continuing 'MEMORIAM FORTIS[simorum . . . qui . . .] PRO REP MORTE OCCVBV[erunt'] – '*in memory of the bravest of men who died fighting for the [Roman] Republic*'.[8] In other words, this was a cenotaph. What is more, though, is that enough remains of the facing panels to indicate it carried originally a listing in columnar

[2] See, e.g., Matei-Popesu 2014, and Panaite 2016.

[3] CIL 3, 12740. Unlike legionaries, auxiliarymen did not qualify for a land or cash grant after completing their military service, their receiving Roman citizenship being considered sufficient compensation. However, the discovery at *Municipium Traianum Tropaeum* of an auxiliary *diploma* issued 111-112 (CIL 16.58), along with seven inscriptions there recording residents with Ulpia as their *gentilicium*, indicating ex-auxiliarymen who took the emperor's *nomen* when granted citizenship, points strongly to the possibility that the settlement was re-founded on Roman lines as a 'home' for retired auxiliaries.

[4] Cf. Tocilescu *et al.* 1895, 7: this Prussian *Hauptmann* von Moltke is by far better known as *Generalfeldmarschal* Graf von Moltke, while von Vinke, from 1841 Vinke-Olbendorf, later achieved prominence as a politician.

[5] von Vincke 1840; von Moltke 1841, 16.

[6] Tocilescu *et al.* 1895.

[7] Ştefan 2009.

[8] *CIL* 3.14214 with *ILS* 9107, and Cichorius 1904; cf. also *Doruţiu-Boilă* 1988, with Gostar 2008, and Turner 2013.

format of a named 3,800 or so men, some of them Roman citizens, as shown by their *tria nomina*, and so legionaries, others lacking this and so *peregrini*, and thus auxiliaries.[9] Heading the list of deceased combatants was the now-lost name of a Roman citizen who ranked as a *praefectus*, thus either a legionary *praefectus castrorum*, the nominal third in command of a legion, or a *praefectus praetorio*, one of two who shared command of the emperor's Praetorian Guard. The inscription tells us this *praefectus* was born at Pompeii but was domiciled in Naples at the time of his death, showing he survived the eruption of AD 79, indicating that the cenotaph, and perhaps the '*tumulus*'-*Tropaeum* also, mark a battle hereabouts during the late 1st or early 2nd century AD.

Given events in the immediate region at the time and the location of the cenotaph and the '*tumulus*'-*Tropaeum*, both monuments should be associated with the recorded 'destruction' of a legion (probably the *legio XXI Rapax*) and its commander during a reported campaign by Domitian against the Sarmatians.[10] This tribe occupied the area immediately north of the Danube hereabouts and Adamclisi is located on the natural route for any invaders entering lower Moesia from this direction. Indeed, a funerary memorial from *Municipium Traianum Tropaeum* provides vivid testimony of that fact as it records the death in battle in 170 of one of the *decuriones*, L. Fufidius Lucianus, during a raid by the trans Danubian Costoboci,[11] while it was precisely because of its strategic context that our Prussian officers were here to ascertain possible defensive lines in the region. As Richmond explained it: '*this part of the Dobrudja provides a natural land bridge, from 25 to 30 miles wide, between Bessarabia and the Balkans, by which it is possible to avoid the numerous flat and marshy valleys which furrow the Wallachian plain … It is as … a door which any power desiring mastery of Southern Europe must bolt and bar. In the narrow confines of the gate itself no deployment is at first possible: but at Adamklissi come the cross-roads. Here the invader makes his choice: shall he fare southwards to Turkey and Greece or westwards to Bulgaria or Serbia?*'[12]

The *Tropaeum Traiani*

Building on the work of G. Tocilescu, the Romanian scholar Florea Florescu, with the advantage of further excavation, and the analysis of what still survives of the *Tropaeum Traiani*, produced what is still the most detailed account of this monument.[13] Built using

[9] As many have commented, this listing provides clear proof of the meticulous record-keeping by the Roman army.

[10] Suet. *Dom*. 6.1. Although many Romanian and other scholars like to associate the monuments with Domitian's Dacian 'War' of 85-86, the northern part of the Dobruja was undoubtedly Sarmatian territory at the time: cf. Bârcă 2013. For the legion and a discussion of its fate, see Berard 2000, and Rossi 2000.

[11] AE 1964, 252.

[12] Richmond 1967, 29.

[13] Florescu, F., 1961 and 1965. Florescu's analysis resulted in the construction of a protective structure in facsimile form over the original remains in 1974-1977, (cf. Florescu, R., 1961), accessible by a small doorway in the side.

a fossiliferous limestone quarried from nearby Deleni but which has not weathered well,[14] it took the form of a rotunda almost 30 m diameter with a mixed rubble and mortar core faced in *opus quadratum*, topped by a conical roof and a *tropaion* or 'battle trophy', rising to a roughly equal height. This *tropaion* takes the usual Roman form of a sculpture depicting a dressed tree-trunk festooned with the arms of a defeated enemy,[15] and was supported on a base with an inscription invoking the help of *Mars Ultor*, Mars the Avenger, and naming the Emperor Trajan with a reference to his 13th assumption of the *tribunicia potestas* (10th December 107-9th December 108). A series of 26 crenellations at the junction of the rotunda and the roof carried reliefs of male and female barbarian prisoners tied to tree-trunks, the men identifiable as 'Germanic' by their dress and hair styles. Around the rotunda was a run of 54 metopes on average 1.48-1.49 m high, 1.17 m wide and 58 cm deep, of which 49 survive, all now in the nearby Muzeul Tropaeum Traiani Adamclisi except for that in Istanbul.[16] These metopes show the Roman army – 'officers',[17] infantry, and cavalry – in various settings. For example, in a *decursio* or military parade; in combat with half-naked barbarians; capturing an enemy base with its camp followers; and in a *triumph* with barbarian prisoners. In addition, there are reliefs showing (probably) the prelude to a victory sacrifice, and men recognisable from their dress as senior 'officers', in some cases identifiable as the Emperor Trajan. All of the figured reliefs are carved in what is best termed a naïve fashion, indicating their local manufacture by semi-skilled craftsmen more used to illustrating funerary reliefs than commemorative Imperial-sponsored sculpture.[18]

Despite the several monographs and articles devoted to the *Tropaeum Traiani* it remains – as one scholar remarked – '*among the most controversial monuments of the Roman world*', not the least because it encapsulates '*Romania's diverse views of its Roman past, and* [is] *alternately prized as a symbol of ancient glory or neglected as a relic of past subjugation*'.[19] Debates continue (surprisingly!) as to its date, from the Domitianic to the Constantinian period.[20] There is also much discussion on the organisation and precise meaning of the metopes, and the disparity in terms of the Roman battle panoply as shown here and on Trajan's Column.[21] For the early scholars the monument was a local equivalent of that monument, the metopes representing a semi-narrative account of the two Dacian wars. Later researchers, especially those of Romanian origin, have preferred often to link them to a specific battle that took place in the immediate vicinity of its location during Trajan's

[14] Florescu, F., 1961, 128-135.

[15] The origin and nature of such monuments are discussed by Kinnee 2018.

[16] According to Tocilescu *et al.* 1895, 10-11, this was sent to Constantinople in 1875 under the care of an Asmy Bey, then Imperial Commissioner for the railway line between Cernavodă and Constanța (Köstence).

[17] The term 'officers' is used here to denote men who from their dress are clearly not rank-and-file soldiers.

[18] We will not discuss the art-historical aspects of the metopes, etc., reviewed in full elsewhere, e.g., Bianchi 2011. But we should note in passing Del Mori 1989/1990, 303-304, with Tufi 1997, for an un-provenanced work of 'provincial' quality at Rome, possibly from Romania, showing three soldiers in 'field-service kit': many details compare favourably with the Adamclisi metopes, e.g., nos. 39, 44, and 45, and similar representations of Roman soldiers in the Trajanic period, except for the medieval-type shields two men carry.

[19] Emmerson 2017, 313.

[20] Cf. Rossi 1997.

[21] For a useful discussion of the armour and weaponry of the legionaries in the relevant period, with particular reference to Trajan's Column and the *Tropaeum Traiani,* see Charles 2002.

First or even Second Dacian War, and one in which Trajan was possibly, but Decebalus, the king of Dacia, almost certainly involved.[22] This is not the place to enter these often-heated disputes, never mind make a judgement one way or another on them. Suffice to say that the epigraphic evidence and the imagery has convinced a majority of interested scholars that the monument is of Trajanic date. As for the event it depicts and its purpose, this writer favours the interpretation offered nearly 50 years ago by Sir Ian Richmond, that it records punitive operations not so much against the Dacians as the tribes facing the borders of Moesia Inferior at the conclusion of the Second Dacian War, high-lighting the inevitable revenge of Rome on those who transgress the *Pax Romana.* Hence its invocation of Mars Ultor, the god in his avenging form, and its location next to the Domitianic altar: '*it was vengeance achieved which prompted, first, the choice of site for the monument* … [and] … *which inspired the subject of the reliefs*'.[23]

The Rotunda Reliefs

As already indicated, the reliefs that decorate the rotunda are of especial value for students of Roman weaponry and combat styles at the time it was built, and also, indeed, of their barbarian opponents. For example, many of the trousered and often half-naked barbarian combatants wield the one- or two-handled *falx*. This scythe-like weapon was favoured by the Dacians and their Eastern Germanic neighbours, in particular the Suebi, and notorious for its slashing wounds to an enemy's arms, legs and heads,[24] helping us place the scenes into context – combat operations in the Lower Danube theatre. The reliefs show four distinct types of *falx* as opposed to the short single-handled version repeatedly depicted on Trajan's Column, and experiments with modern replicas have revealed it to be a particularly vicious one when used against unarmoured flesh, and even capable of penetrating the mild steel used in the Roman legionary's hooped body armour, the *lorica segmentata.*[25]

[22] E.g., most recently, Popescu 2018, 18 – in free translation, "… even though a battle took place here between Romans and Dacians, the existence of the monument is justified by the desire to glorify it, making Trajan seem as greater or at least equal to Augustus at as close as possible to the place that brought him military glory. We have no evidence that the Emperor Trajan or Decebalus was or was not present at Adamclisi when the organized attack took place: but we have a good reason to believe that Decebalus would have personally participated in it."

[23] Richmond 1967, 39, with Lepper and Frere 1988, 299-304. The suggestion of Carbó García and Rodríguez San Juan 2012, that Trajan ordered the erection of similar monument at Caracena at the head of the Persian Gulf during his Parthian War as a southern equivalent as it were, of the *Tropaeum Traiani* thus building visible symbols of Roman power at different ends of the Roman Empire, does not stand scrutiny.

[24] For the *falx*, see Borangic 2009. Certain of the Roman enemies shown on the Adamclisi metopes have the side-knotted hair style described by Tacitus as unique to the Suebi (*Germ*. 38), but which is found on bog-bodies from all over North-West Europe, e.g., the Osterby Man and Dätgen Man.

[25] Cf. Fronto, *Princ. Hist.* 9, for the 'gaping wounds' caused by the *falx*. For the experiments with a modern replica, see Sim 2000, who reported that when used in a slashing blow against a block of plastina, an oil based clay with properties similar to human flesh, it opened a cut 16.5 cm long, 1.13 cm deep and almost

With regard to the Roman soldiers shown on the reliefs what is especially noteworthy is how these men are shown armoured and armed in styles at odds completely with Trajan's army in the Dacian wars as depicted on the eponymous Column in Rome. [26] In fact, they provide us with the clearest example of the Roman army adopting specialised equipment for battle against a specific enemy. For example, while some infantrymen carry the legionary's rectangular *scutum*, instead of wearing the legionary's hooped *lorica segmentata* as body protection, they are dressed in the *lorica hamata* ('chain' or 'ring-mail') or the *lorica squamata* (scale armour) associated with auxiliary soldiers. This was presumably because these types of flexible armour, discarded by the legions in the early Augustan period, allowed greater agility in combating enemies armed with the *falx*,[27] and provided better cushioning against a body blow from that weapon. What is more, many of the soldiers wear greaves on their legs and a *manica* on their right arms as additional protection against slashes from the *falx*, such guard devices being absent from Trajan's Column. On the other hand, the Adamclisi soldiers, as with most of those on the Column, do wear the reinforced version of the 'Imperial Italic' helmet, with its cross-braced strengthening on the crown for better protection against a downward slash from a *falx*. These specific points of detail apart, we need to note how one group of metopes also show Roman soldiers parading prisoners in a triumph or standing-by observing the process, all clad in what Richmond termed their 'field service kit', imagery again absent from the Column.[28]

The Adamclisi relief in the Istanbul Archaeological Museum (Fig. 1), number 28 in Florescu's sequence of metopes,[29] belongs to this last category, showing two standing soldiers wearing Richmond's 'field service kit'. They are dressed identically, wearing *caligae*, a knee-length 'kilt' pleated at the back, and a short-sleeved tunic which may have an integral high choker-type collar, unless this is a scarf of some kind tied around the neck. This tunic is perhaps a *subarmalis* or doublet, worn beneath the armour to help absorb sweat and body blows, the integral collar or separate scarf there to prevent the armour chafing the neck.[30] Over this garment each man wears a *paenula*, a poncho-like garment that slipped over the head.[31] Made usually of a half-circle or three-quarter-circle of felt or woollen fabric, sewn at the upper front, and normally provided with a hood, the lower front parts could be thrown back over the shoulders to leave one or other or both arms free when needed. In the case of the Istanbul relief the ridged lines over the chest area represent the ends of the men's *paenulae* drawn together at the front so that they can hold

1 cm wide, and that when used against a sheet of mild steel, it penetrated to a depth of almost 0.4 cm, buckling the surrounding area.

[26] This was observed more than a century ago: Furtwängler 1897, 273-276.

[27] It is noticeable that some of the *Tropaeum Traiani* metopes show the Roman infantry using their swords for a slashing blow or a chest-high downward thrust against their opponents instead of the traditional disembowelling stab (e.g., Vegetius 1.12), the first two actions made easier by wearing the less constrictive *lorica hamata* and *squamata*.

[28] Richmond 1967, 36.

[29] Florescu, F., 1961 and 1965.

[30] We do not know the name for the military version of this neck scarf, referred to in civil contexts as a *focale* (e.g., Quint. *Or*. 11.3.144) or *sudarium* (e.g., Suet. *Nero* 51).

[31] E.g., Suet. *Galba* 6.

Fig. 1. Relief from the *Tropaeum Traiani* monument in Adamclisi, Romania, in the Istanbul Archaeological Museum, showing two Roman soldiers in their 'field service kit'.

a *pilum* in the left hand, and use the right to grip the rim of their shields, which rest on the ground. The *pila* are shown in proportionate size to the men, the weapon itself being almost 2 m long,[32] with a wooden shaft and a square socketed but circular iron shank tipped with a pyramidal point, shown here projecting into the border of the relief. Both men also wear a *gladius* with a ridged grip and a heavy ball-like pommel contained in a scabbard decorated with a tendril pattern, apparently suspended over the left side by a baldric, or over-the-shoulder sword-belt. Their shields, which reach waist high from where they rest on the ground, are shown as semi-cylindrical and sub-rectangular, as usual with legionary shields, but with rounded rather than squared upper edges. Each has a flattened *umbo*, or shield boss, the shield fronts being decorated with almost identical patterns matching closely those found on many reliefs of the Roman legions at war. That is, with a central vertical height-wise reinforcement bar in the form of Zeus' thunderbolt, with angled shapes rather like a modern engine's cam-shaft that end in barbs, these being stylised lightning bolts, and wavy lines, representing torrential rainfall, projecting diagonally from the *umbo*. These diagonal motifs flare out above and below a horizontal *tabula*

[32] Veg. 2.15.

ansata label, which in reality, according to Vegetius, would have the soldier's name and that of his unit marked on it,[33] but whereas the right hand soldier's shield has two five-pointed stars in the top right hand corner and one below the *tabula ansata*, that of the left-hand soldier has one above and one below.

When we compare the Istanbul relief with the others on the *Tropaeum Traiani* showing men in 'field service kit' there are some slight but noticeable differences. Most obvious is that the men on the Istanbul relief wear their *gladii* on their left side by means of a baldric. This is quite at odds with how Roman infantrymen are shown elsewhere on the *Tropaeum*, or, for that matter, on many other relief carvings of the Roman military of the 1st-2nd century, such as Trajan's Column. Countless reliefs, especially funerary monuments, indicate that the wearing of the *gladius* on the right side, suspended from a waist belt, was *de rigeur* for a legionary and an auxiliary infantryman. The only other cases of men in 'field-service kit' on the *Tropaeum Traiani* wearing an edged weapon on the left are in metopes numbers 22 and 25, but those in metope number 22 are assuredly 'officers', as they wear a short *paludamentum* fastened at the right shoulder using a *fibula*, while those in metope number 25, who do wear *paenula*, as normal for the 'ordinary soldier', wear the standard *pugiones*, short daggers, on this side, not a *gladius*. True, the armoured auxiliary cavalrymen shown in, for example, metopes numbers 2 and 24, wear their edged weapon on the left suspended from a baldric, and even carry sub-rectangular shields with rounded corners: but the wearing of a sword on the left is – as many reliefs indicate – usual for cavalrymen, and their shields are smaller and flat as suited for cavalry use, not the large semi-cylindrical examples shown on the Istanbul relief and intended for the infantry.

It seems clear from these slight but eye-catching divergences in equipment and mode of dress that the two men shown on the Istanbul relief are something other than regular legionary soldiers, and as such deserving of better notice. When considered against the other reliefs these differences cannot be explained by problems in carving or an aesthetic sensibility in seeking to maintain an 'artistic' balance with the adjoining metopes, nor, assuredly, negligent vigilance on the part of the craftsman responsible. As it is, their stance, in what in the British army is known as the 'at ease' position, and their wearing of 'field-service' kit while fully armed, suggests they might be on some form of special duty. In which case they might be two Praetorian Guardsmen, members of the emperor's body-guard, on hand for protection and other duties.

Support for interpreting these men as Praetorian Guards can be found in the Domitianic-period Cancelleria Relief A and the Trajanic period Puteoli reliefs which both show Praetorians carrying a sub-rectangular shield with rounded corners as on the Istanbul relief, as does one of the Praetorians depicted on the Claudian period Louvre-Lens relief,[34] and so

[33] Cf. Veg. 2.18, where it is claimed of legionary soldiers that '… *every cohort had its shields painted in a manner peculiar to itself. The name of each soldier was also written on his shield, together with the number of the cohort and century to which he belonged.*' We naturally cannot vouch for the veracity of this statement, although a leather shield cover found at Bonn does have a label affixed reading 'LEG I MPF' for the *legio Minerva Pia Fidelis*, the legion stationed there: cf. van Driel-Murray and Gechter 1983, 30-38 and fig 9.

[34] Accession number Ma 1079. For an extensive discussion of Roman legionary and Praetorian shields types, see Charles 2002, 667-683.

this shield type might be associated with these specific units.[35] On the other hand, one Praetorian on the Cancelleria relief A and one on the Puteoli Relief carry smaller circular shields instead, although these are perhaps some kind of rank identifier, as the man on the first carries a staff with the spear shaped emblem of a *beneficiarius*, a soldier on special duties, while instead of a *pilum*, the one on the Puteoli relief holds a long spear, for which the name *hasta* seems appropriate.[36] As it is, in a Roman military context small round shields are associated often with standard bearers and musicians, men graded as *principales* or 'specialists', and who in their case could not hold a large rectangular shield on account of the particular pieces of equipment they carried as part of their military duties. That apart, further support for seeing the men on the Istanbul relief as Praetorian Guardsmen can be found in the tendril decoration of their scabbards, present on the Louvre-Lens relief, and, perhaps, their shield decorations, similar to those on the shield carried by the probable Praetorian Guardsman on the Cancelleria Relief A.

However, in all the reliefs we have of Praetorian Guardsmen where their sidearm is visible it is worn on the right, and at that apparently suspended always from the regular military belt worn at the waist, what Roman military students today usually refer to as a *cingulum*, but which is more correctly called a *balteus*. As a wide range of Roman sculpture confirms, this was the normal practice for the Roman infantry soldier – Praetorian, legionary or auxiliary – until the early 3rd century, when the *gladius* was superseded by the longer *spatha* suspended by a baldric. To be sure, the same source materials do show some soldiers wearing the *gladius* on the left, but other than those men identifiable as auxiliary cavalry, all these are recognisable in one or other way as 'officers', as with the men on Adamclisi metope no. 22, who wear a short cloak draped over the shoulders,[37] or as centurions, who on the basis of sculptural evidence, habitually wore their sword on the left.[38] As the two soldiers on the Istanbul relief hold *scuta* and wear *paenulae*, a garment usually associated with the 'rank-and-file', including what today would be men graded as non-commissioned officers, they are unlikely to be 'officers', those men of equestrian rank and above serving for a short time to fulfil the requirements of the *cursus honorum*.[39]

[35] For the Cancelleria Relief: Magi 1945, with Last 1948; for the Puteoli Relief: Flower 2001. It is possible that the 'ἀσπιδας τας σωληνοειδεῖσ' or 'pipe-shaped shields' carried by Praetorians at the Battle of Antioch in 218 (Dio 79.37.4) are these particular items although they could equally well be the semi-cylindrical shields carried by early Imperial legionaries.

[36] For the definition of a 'hasta', q.v. Lewis and Short's *Latin Dictionary*.

[37] While a 'cloak is a cloak is a cloak', it is not unreasonable to assume, as this writer does, that there was a distinction in the shape of the cloak worn by a Roman 'officer' and those he commanded, most probably through colour, but also through size, given that officers would generally be mounted and so more likely to have a short version of the *paludamentum* fastened at the shoulder rather than a long cloak.

[38] There is no literary evidence for this but the classic example of a relief showing a legionary centurion wearing his sidearm this way is the tombstone of M. Favonius Facilis at Colchester: see, e.g., Philips 1975. There is some evidence, though, this might not have been the case with auxiliary centurions, for a relief from Offenburg of the auxiliary centurion, L. Valerius Albinus of *cohors I Thracum* shows him wearing his sword on the right: see CIL XIII 6286. It is probably worth pointing out also that as metope number 45 and other sculptures show, 'officers' might also wear a long edged-weapon on the right, but suspended from a baldric not a belt.

[39] Note, however, that centurions are normally shown with the *paludamentum*, rather than the *paenula*.

In the writer's opinion, though, the Istanbul relief, with its subjects wearing *paenulae* and their *gladii* suspended by a baldric on their left sides, shows a pair of centurions, men who – it seems – habitually wore this weapon on the left. The fact is that ordinary legionaries and Praetorians also, it would seem, were trained to fight in a shield wall, in close line formation, shield to shield, with the sword held horizontally outward at waist height for a decisive disembowelling thrust, which meant they had to wear their *gladius* on the right to facilitate its drawing while simultaneously maintaining the shield wall to protect their left side and body. A centurion, however, as the leader of a group of trained soldiers, was expected to show individual bravery in war,[40] and, we might assume, be expected to spearhead a charge by the men he commanded into close combat, as did G.Crastinus at the Battle of Pharsalus,[41] a conjecture that finds support in complex systems analysis.[42] This being the case, a centurion, standing ahead of the shield wall and free from its confines, could wear his *gladius* on the left, the usual side for any right-handed person armed with a sword of any description, making it easier to draw and – we imagine – brandish it aloft as a signal for the advance.[43] This is, of course, pure speculation While there is some evidence for the position of a centurion in the battle line in the 2nd century BC Republican legion, which was organised on quite different lines, namely that they stood at the extreme right and extreme left of the unit's first rank in a line abreast formation, there is simply no evidence regarding the position of a centurion in the battle line of an Imperial legion.[44]

Conclusion

We freely conclude that the precise identity and status of the two men shown on the relief from Adamclisi now in the National Museum of Archaeology in Istanbul cannot be determined for certain, although we would hold it shows two legionary centurions. Having established that point, though, it is hoped that this article has in a sense given a greater prominence to one of the lesser known but certainly internationally important artefacts on display in that museum. And optimistically, that it has also indicated some of the problems inherent in what is a surprisingly limited amount of literary evidence for rank and other distinctions among the Praetorian and legionary sections of the Imperial Roman army and in particular, the problems of relating sculptural evidence to this, a subject that many might assume to be free from debate given how it has been the focus of countless studies since the Renaissance.

[40] Caes. *Bello Afr.* 54.

[41] Caes. *Bello Civ.* 3.91.

[42] Rubio-Campillo, Valdés and Ble 2005.

[43] While it might be thought a suicidal tactic for a centurion to lead from the front, such a 'heroic' form of leadership by a unit commander, following the practices of classical period combat, continued into World War One when many units were indeed left leaderless after their officers were killed at the outset of the charge. Modern army tactical training emphasises the role of the commander in orchestrating combat from a safe position, but this surely would not be the case in the Roman period with such heroic leadership as that displayed by Crastinus as an example.

[44] Polybius (6.24.8).

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A PLACE ON THE FRINGE OF SAGALASSOS
The excavations at the Rock Sanctuary

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Abstract

The so-called Rock Sanctuary, a distinctive limestone rock outcrop with natural cavities situated in the periphery of the Pisidian city of Sagalassos (SW-Turkey), was a natural feature that was served a variety of functions throughout its history. Rescue excavations carried out at the site mainly yielded evidence for the deposition of specialised offerings in the form of ceramic, glass, metal and stone vessels, pieces of personal adornment, instruments for textile production, but especially many thousands of fragments of terracotta figurines. All of these identified RS as a 'special-purpose site', a natural landform that was given a cultural significance, not by means of monumentalisation but through the activities that took place there during the Hellenistic and Roman Imperial periods. It was the combination of all these objects as a whole and the very context in which these were used and placed that made it possible to identify the site as a sanctuary, more particularly, a site of popular worship. This paper presents an overview of those excavations, highlighting the significance of this site in the landscape of Sagalassos and what it can tell us about the community that conceived it and used it as a cult site, outside of the sphere of official religious practice. RS thus offered a unique glimpse into an aspect of ancient life not previously known from Sagalassos.

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Introduction

During the study campaign of June 2014 a collection of terracotta figurines, stored in the depots of the Sagalassos Project in the village of Ağlasun (province of Burdur, Turkey), were reviewed for publication. This collection included a group of mould-made terracotta figurines dating to the Roman Imperial period, which had been confiscated in 1991 by local authorities and handed over to the Sagalassos Project for safe storage in the depots of the excavation house. The figurines allegedly originated from illegal excavations in the vicinity of the archaeological site of Sagalassos. Upon inquiry as to the exact origin of the artefacts, team members of the Sagalassos Project were taken by a local shepherd to a location some 600 m to the southeast of the urban centre, immediately beside the modern road leading to the ancient city (Fig. 1).

Fig. 1. Location and aerial image of the Rock Sanctuary (Google Earth 2017).

This proved to be a limestone rock outcrop in the mountain slope with several large crevices covered by limestone boulders, thus creating several cavities within the mass of the rock (Fig. 2). The abundant presence of artefacts on the surface both within the crevices as in its immediate surroundings in the form of many hundreds of fragments of locally produced terracotta figurines, but also of ceramic and glass vessels dating to the Late Hellenistic and Roman Imperial periods, confirmed this site as the source of the confiscated terracotta figurines. Furthermore, the exceptional nature of these finds in terms of type and quantity allowed this location to be identified as a site of 'specialised deposit'" of artefacts[1]. While terracotta figurines could be deposited in a number of contexts, such as

[1] Alcock and Rempel 2006.

Fig. 2. View of the rock outcrop from the northwest (© Sagalassos Archaeological Research Project).

domestic contexts and burials[2], their exceptional quantity in a cave-like location, which was often considered numinous in antiquity[3], pointed to a cultic site. This was an area set apart for the worship of gods, a holy place where people went to undertake religious rituals in the form of sacrifice, prayer, and the giving of votive offerings. Accordingly, the site was designated as the 'Rock Sanctuary' (hereafter RS).

Dumps of excavated material present throughout the site indicated that it had fallen victim to many years of illicit digging, which destroyed much of the stratigraphical record. This undoubtedly caused the loss of numerous finds, which were sold to private collectors and museums all over the world. Most of those pieces most probably ended up in Turkey: at the regional archaeological museums of Burdur and Isparta 330 of the 541 registered figurines (or 61%) and 70 of the 140 registered figurines (or 50%) respectively could be generally attributed to the production at Sagalassos on the basis of typology and clay fabric, and in some cases actual fits between fragments kept at the Burdur Museum and fragments excavated at RS leave no doubt that these were brought from RS[4]. Also, several pieces kept at the Sadberk Hanım Museum in Istanbul most probably originated from the site[5]. More exceptional figurines in terms of preservation and suspected to have come from RS have also been recognised among the collections of museums outside of Turkey such as the National Museum of Antiquities in Leiden, the Princeton University Art Museum, and the Martin von Wagner Museum in Würzburg, and among items that were sold at major auctioneers such as Christies' and Sotheby's[6].

Given the fact that the site is easily accessible for clandestine activities, as attested by the illegal excavations, permission was sought for immediate scientific investigation of the sanctuary in the form of rescue excavations in collaboration with the directorate of the

[2] Huysecom-Haxhi and Muller 2015.
[3] Mavridis *et al.* 2013.
[4] Talloen 2020.
[5] Talloen and Özden-Gerçeker 2020.
[6] Talloen and Özden-Gerçeker 2020.

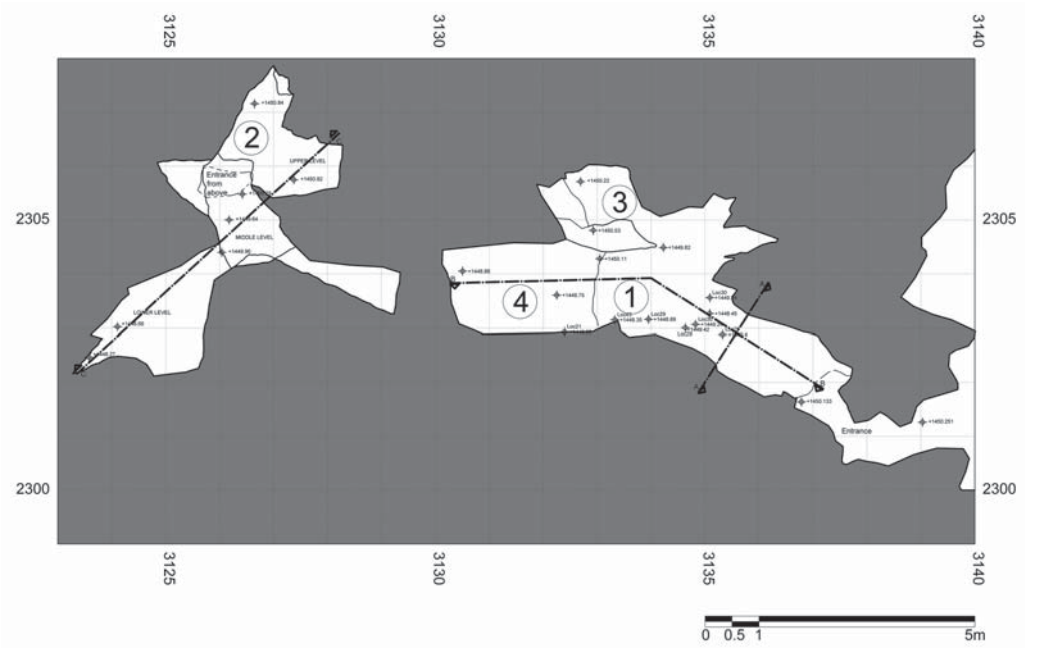


Fig. 3. Plan of RS with indication of the different rooms
(measured and drawn by Ö. Başağaç; © Sagalassos Archaeological Research Project).

Archaeological Museum of Burdur. Firstly, the aim of these excavations was to clear completely the deposits of previously excavated soil and salvage whatever artefacts remained in them. Furthermore, the spaces inside the rock outcrop were investigated in the hope of finding *in situ* deposits not touched by past illicit excavations, which could inform on the occupational history of the site and provide a more precise chronology for the different categories of material culture that were deposited there.

In view of its potential for understanding ancient religious practice in the region, a second aim of the excavations concerned the nature of the cult or cults that were practiced at RS, i.e. which gods were worshipped, by whom and by means of which religious practices. These questions would be answered through an examination of the situation and physical form of the sanctuary on the one hand, and the residue of ritual activity, in the shape of diverse classes of material evidence, embedded in it on the other.

In order to achieve these aims a series of trenches was planned in the three areas encompassing four spaces – designated Rooms 1 to 4 – of the cave-like complex that had not completely collapsed and therefore were (partly) accessible for research (Fig. 3). These areas were investigated over four excavation campaigns at the site, between 2014 and 2018[7]. First, these spaces and their stratigraphy will be addressed, before we turn to the occupational history of the site.

[7] Talloen *et al.* 2015; Poblome *et al.* 2019.

Spaces and stratigraphy

As mentioned above, RS is not an actual cave site but consists of a rock outcrop with several large rock crevices that were covered by huge limestone boulders creating a number of cave-like spaces. On the outside no obvious remains of any man-made structures or traces of stone carving could be observed, and also inside the natural appearance of the outcrop was largely left unchanged. Our current understanding of RS is severely hindered by the collapse of the ceiling of those spaces, making large parts inaccessible and the spatial analysis of the complex a difficult enterprise. Three main working areas were distinguished: a 'South Zone' with the probable entrance to the complex and Room 1 in the southeastern part of the outcrop, a 'North Zone' at the northwestern end of the sanctuary complex, that encompassed Room 2 as well as an open-air area where numerous traces of illegal excavation were present, and a 'Middle Zone' at the centre of the rock outcrop comprising Rooms 3 and 4.

South Zone

The cave-like complex was originally accessible from the southeast through a 1.05 m wide opening between the faces of the outcrop and covered by a lintel-like boulder which has now collapsed (Fig. 4). The badly weathered rock faces on either side of the opening display possible traces of ancient stone carving to facilitate access to the southernmost room of the complex, Room 1. This roughly rectangular 'room' with a southeast-northwest orientation is a covered, corridor-like space with a length of 4.15 m and an average width of 1.20 m. Its walls were formed by the faces of the limestone bedrock and its ceiling consisted of large limestone boulders which were lying on top of the bedrock, thus forming a covered crevice. At the northern end of the space an extension was present on both the east and the west side; the latter gave access to a further space in the central part of the outcrop (Room 4) which has now been blocked by the collapsed ceiling of both spaces.

Fig. 4. View of the collapsed entrance to Room 1 in the South Zone (© Sagalassos Archaeological Research Project).

The surface of Room 1 was littered with ceramics, including pottery roughly dating between 200 BCE and 200 CE, as well as few Byzantine shards. Large amounts of fragmentary terracotta figurines were retrieved, mainly representing different types of the goddess Aphrodite (such as anadyomene, genetrix, Knidian, pudica and strophion). Other deities included Athena, Eros, Hermes, Kybele and Tyche, while numerous fragments of female busts were also present. Further finds included shards of glass vessels, animal bones, and a seashell.

Underneath, we exposed a 0.16-0.60 m thick deposit of previously excavated material, again with many fragments of pottery and terracotta figurines dating to the same periods as the material found on the surface. This deposit was sloping down towards the south into Room 1 from an adjacent space (Room 3) in the central part of the complex, indicating that the latter space was the origin place of deposit of this material, which had been redeposited as a result of illicit excavations. The excavated soil was present on top of a 0.20 m thick deposit of colluvium coming from the same space to the north.

After removing the deposits of illicitly excavated soil and the underlying natural colluvium, a sequence of *in situ* deposits was recorded in this part of the complex. The substrate of the uppermost ancient walking level was a 0.25 m thick deposit of compact sandy silt. Its ceramic content was mixed, including pottery ranging between 200 BCE and 200 CE, and some Middle Byzantine shards which provided a *terminus post quem* for its lay-out. At the northern extremity of Room 1 the 0.50 m thick fill of a 0.52 m wide (NW-SE) and 0.62 m long (SW-NE) oval pit was excavated. It included shards of Middle Byzantine incised *sgraffito* and *champlevé* pottery which could be dated to the late 12th-early 13th century[8], bones of sheep/goat, chukar (*Alectoris chukar*) and hare (*Lepus europaeus*), as well as ashes and charcoal, which suggest some fire-related activity, possibly cooking, in the space.

Underneath, a layer of colluvium with a thickness varying between 0.17 m and 0.40 m, and consisting of dark brown silty soil with small limestone fragments contained some ceramics from the Roman Imperial period. It had accumulated over several large limestone fragments, most probably part of the collapsed ceiling which had fallen, possibly as the result of an earthquake, on top of a floor level (Fig. 5). The associated floor substrate with a thickness of 0.10 m could only be given a *post quem* date of the Roman Imperial period on the basis of the pottery it contained. It was arranged on top of two levelling deposits of silty soil with large amounts of limestone fragments and a thickness of 0.13 m and 0.22 m respectively, containing ceramics dating to the 1st-early 2nd century CE.

Due to the presence of the large limestone chunks the excavations could only continue in the northwestern part of Room 1, over a length (E-W) of 2.25 m and with a maximum width (N-S) of 1.00 m. Two lower floor substrates of dark brown silty soil with many limestone and charcoal fragments and with a respective thickness of 0.16-0.29 m and 0.35-0.46 m were encountered. The ceramics they contained provided a *terminus post quem* in the 1st century CE for the arrangement of these deposits. Residual Hellenistic pottery was also present in considerable quantities in these two floor substrates, but unlike the

[8] We are grateful to Athanasios Vionis (University of Cyprus, Nicosia) for sharing his expertise with us through photographs of these finds.

deposits in the other spaces of the complex (see below), only few fragments of terracotta figurines could be retrieved from these layers; furthermore, they included two iron writing utensils or *styli*.

The two floor substrates were laid out on top of a series of fills with a combined thickness of 1.25 m consisting of brown silty soil and small and medium-sized limestone fragments, placed between the two converging faces of the rock outcrop which formed the northeastern and southwestern border of the space. These fills were most probably arranged to create a horizontal walking level within the crevice. Remarkably, these fills, which constituted the lowest recorded deposits in Room 1, only contained prehistoric ceramic material, dating to the 4th millennium BCE and suggesting an occupation of the crevice during the Late Chalcolithic period.

North Zone

The working area of the North Zone, situated at the northwestern end of the site, encompassed a second space within the rock outcrop, designated Room 2, as well as the area outside this covered crevice, immediately to the north. The area outside Room 2, formed by the sloping surface of the rock outcrop and measuring 5.90 m (E-W) by 2.75 m (N-S), was covered by two deposits (with a total thickness of 0.70 m) constituting the dump from illegal excavations as indicated by the presence of batteries, cigarette butts and wrapping material within the soil (Fig. 6). This material appeared to have been removed from inside the 'room'.

The layers of excavated soil dumped in the open area northwest of Room 2 contained large amounts of pottery shards ranging in date from the Hellenistic (2nd century BCE) until the Middle Byzantine period (10th-12th century CE) with most pottery dating between

Fig. 5. Limestone fragments of the collapsed ceiling of Room 1 (© Sagalassos Archaeological Research Project).

Fig. 6. View of the area outside Room 2 from the southwest (© Sagalassos Archaeological Research Project).

the 2nd century BCE and the early 3rd century CE. Interestingly, again some shards of Late Chalcolithic pottery, attributed to the 4th millennium BCE, were present. Other finds from these deposits included pieces of hairpins and a distaff in worked bone, miniature lead vessels, copper-alloy pieces of jewellery such as necklaces and earrings, and shards of glass and stone vessels. A Late Hellenistic bronze city coin of Sagalassos depicting the head of Zeus on the obverse and two confronting goats on the reverse was also found.

Especially fragments of terracotta figurines dating to the Roman Imperial period were again prominently present in these deposits. As in the other areas of the site, the assemblage of figurines was dominated by the goddess Aphrodite and her son Eros. Other identified deities included Tyche, Hermes, Athena, Nemesis, Kybele, Isis and the moon-god Men. Frequently represented types of ordinary humans included numerous busts of women, as well as some busts of male youths. Fragments of female musicians playing harp, lyre or cymbals, and studying children with writing tablets on their laps were also present. In addition to the abundant terracotta figurines, also a single lead figurine of Hermes was found.

Other than those of wild animals, such as fox (*Vulpes vulpes*), badger (*Meles meles*), tortoise (*Testudo graeca*) and mole rat (*Spalax leucodon*) which must have lived at the site after its abandonment and can also be held responsible for some of the disturbance in the stratigraphy of the site, faunal remains from this debris included chicken, sheep/goat, pig, and some little tunny (*Euthynnus alletteratus*) which represent consumption refuse. Also several shells of marine molluscs were present, including scallop (*Pectinidae*), cockle (*Cerastoderma glaucum.*), clam (*Glycymeris glycymeris*), cowrie (*Cypraea* sp.) and cerith (*Cerithium* sp.). These shells are commonly found in the Mediterranean and appear to have been brought to RS as gifts or ornaments. Remarkably, the deposits also contained several human teeth as well as other, very fragmented elements of human skeletons, suggesting that the cavities of the rock outcrop were also used for burial purposes at some point. Unfortunately, since none of these were found *in situ*, it was not possible to determine their date.

Room 2 inside the outcrop consisted of a series of interconnecting natural cavities of which the ceiling composed of large limestone blocks had largely collapsed. At the centre was a roughly triangular space with an apex oriented to the southeast, sides of 2.00 m to 2.20 m, and a base with a length of ca. 1.00 m. Additional spaces were present on the southeast and northwest sides. The SW Area of Room 2 is a roughly trapezoidal natural cavity with a length of 1.20 m (SE) to 2.80 m (NW) and a width of 1.50 m (SW) to 2.25 m (NE). The NE Area of Room 2 was a roughly rectangular natural cavity, about 1.20 m wide (E-W) and 1.40 m long (N-S). As Room 2 did not display any signs of stone carving, it was probably the result of natural erosion and karstic processes. It was also not accessible through any purpose-made entrance; a gap between the covering boulders leading to the central cavity appears to have served that purpose. These cavities were undoubtedly the origin of much of the illegally excavated material found outside the crevice, as is corroborated by fitting pieces of pottery and figurines from deposits inside and outside of Room 2.

Yet, this part of the site was also characterised by a severely disturbed stratigraphy inside of Room 2, with previously excavated soil that remained present between the blocks of the collapsed cave-like space, as well as a glass beer bottle (dated 13/11/2011), a D-type alka-

line battery, a work glove and a shovel, most probably remnants of the illegal excavations that took place at the site.

Several deposits of excavated soil with a total thickness of 0.45 m had to be removed in different areas of the SW triangular space of Room 2. From them, mixed archaeological material was retrieved. The pottery ranged in date between the Hellenistic and Middle Byzantine periods, with again several Late Chalcolithic shards present, including some shards belonging to a single vessel. Moreover, numerous fragments of terracotta figurines were found again, representing the same types mentioned above, though one figurine of Hermes was particularly well preserved. Other finds included pieces of a comb and hair pins in worked bone, a biconical terracotta spindle whorl and loom weight, a bronze city coin of Sagalassos depicting the lunar god Men and minted during the reign of Maximinus (235-238 CE), a fragment of a *millefiori* bowl, pieces of a miniature alabaster bowl, a miniature lead jug and fishplate, as well as a locally produced Early Roman Imperial miniature ceramic oil lamp and again some seashells. Furthermore, several fragments of human bone and some teeth were retrieved from these disturbed deposits.

A very hard, 0.19 m thick deposit of greyish brown silty soil was found underneath these layers of excavated soil (Fig. 7). Its compactness and lack of intrusive (modern) material identified it as an *in situ* deposit. The deposit contained large amounts of finds which, due to their specialised nature, could be identified as an assemblage of votive offerings: it included several miniature lead vessels, fragments of lead miniature mirrors, pottery for dining, glass vessels such as *unguentaria* and bowls, and some tools, including a glass and worked bone distaff, and a miniature iron chopping knife. The majority of the finds from this deposit equally consisted of several hundreds of fragments of terracotta figurines: many different types of Aphrodite, Eros, Tyche, Athena, and Hermes were again predominant among the representations of deities, while female busts were prevalent among the human representations. Less numerous categories of votive offerings were terracotta plaques, such as one of Eros embracing Psyche, and lead figurines, like the fragmentary triad of the gods of medicine, Hygieia, Telesphoros and Asklepios. A bronze city coin of Perge minted during the reign of Hadrian (117-138 CE) and depicting the local goddess Artemis Pergaia was also found.

Fig. 7. *In situ* deposit (locus 15) in the SW part of Room 2 with numerous fragments of votive offerings (© Sagalassos Archaeological Research Project).

This 'assemblage' of votive goods could be generally dated to the 1st-2nd century CE based on the associated pottery. Yet, several elements indicated that it had not been deposited there originally: 1) the general fragmentary nature of the material, with none of the pottery or figurines, for example, being complete or broken *in situ*; 2) the weathered nature of the material which suggests that it had been exposed to the elements for a considerable period of time prior to being buried; 3) the presence of several fragments of terracotta roof tiles and water pipes, which clearly must have belonged to structures outside the crevice. Consequently, it was most probably the result of a clear-up operation within the sanctuary. Judging from the slope of the deposits, this material appears to have been thrown in from the north where the 'entrance' to Room 2 is situated. Few shards of 4th century CE pottery present within the deposit provide a *terminus post quem* for this operation.

Underneath the layer with redeposited votive material, a hard, 0.05 m thick deposit of brown silty soil was revealed. This must have served as the substrate of a walking level, and was probably arranged in the 1st century CE, based on the *post quem* date provided by the ceramics retrieved from the deposit which also included some prehistoric shards. It had been laid out on top of a fill consisting of small and medium-sized limestone fragments which had been deposited between the parts of the bedrock in order to create a level area. The latter layer could not be completely excavated because of the bedrock and large limestone blocks between which it was present. It hardly contained any artefacts, but the presence of two almost complete human bones – a right shinbone (*tibia*) and calf bone (*fibula*) which showed a similar size and, although not found in anatomical position, may belong to the same adult individual – and a large base fragment of a prehistoric pot should be noted. This was the lowest stratum that could be excavated in this part of Room 2.

In the NE Area of Room 2, the top layers with a thickness of 0.18 m, as well as the 0.85 m thick fill of a round pit (diameter: ca. 1.20 m) dug by looters in the central part of the area consisted of previously excavated soil. It included large amounts of pottery shards and fragments of terracotta figurines. The chronological range and typology of these artefacts was comparable to the material found outside the space, again confirming Room 2 as the origin of the debris.

Underneath, a sequence of deposits, apparently untouched by the illegal excavations, was found along the edges of the space. The ca. 0.30 m thick top deposit, mainly contained fragmentary Roman Imperial period artefacts, including pottery and terracotta figurines, as well as fragments of glass vessels, hair pins and a spindle in worked bone. It was covering a more compact deposit with a thickness varying between 0.30 and 0.40 m of which the ceramic contents could be dated to the (late) 1st-2nd century CE with some residual Late Hellenistic material. The more exceptional finds included an almost complete terracotta figurine of Aphrodite anadyomene and of Tyche standing within her shrine, a finger cymbal, a fragment of a worked bone spindle and a complete oil lamp with traces of soot on its nozzle. Yet, the presence of roof tile fragments as well as few 4th century CE shards, as encountered in the SW Area, again point to remains of a Late Roman clean-up operation rather than a votive deposit.

The dump was preceded by a 0.14-0.24 m thick deposit of silty soil with many charcoal remains, as well as fragments of terracotta figurines and pottery dating to the 1st century BCE and 1st century CE. The head of a terracotta figurine representing a comedy actor,

datable to the 2nd-1st century BCE, is one of only few fragments of Hellenistic figurines found at the site. Within the deposit were concentrations of shards belonging to several Early Roman Imperial common ware vessels, including a cooking pot and a jug, though none constituted a complete vessel.

It covered a level of deposition on top of which shards of two complete, locally produced *unguentaria* of the spindle bottle type, dating to the 2nd-1st century BCE, were retrieved, as well as an iron cauldron fork; parallels for this type of fork have been found in Gaul where they were dated to the late 2nd-1st century BCE[9]. Given the completeness of the *unguentaria* – the only items found within the complex to be broken *in situ* – they were probably in their original location of deposition. The substrate of this level of deposition was a 0.25 m thick layer of silty soil with charcoal remains and many small stones which included three human cervical vertebrae, likely from one adult individual.

The lowest investigated level, a deposit of greyish silt that had accumulated between large and medium-sized stones, could not be completely excavated due to the presence of the large stones. It contained no finds and may therefore have been a natural accumulation.

Middle Zone

The Middle Zone located in the centre of the outcrop consisted of two spaces, Rooms 3 and 4, that could only be partially investigated. Room 3, situated on the northern edge of the outcrop between Rooms 1 and 2, is a roughly rectangular space of which only the eastern part, measuring 1.06 m (N-S) by 1.86 m (E-W) could be investigated due to the collapsed ceiling. It too had a natural opening between the covering limestone boulders, comparable to that of Room 2, that may have served as an access to the space. Based on the sloping stratigraphy of the debris of illegal excavations present on top of the ancient walking level in Room 1 (see above), Room 3 could be established as the original location of the excavated material. This may explain why only few deposits were found in this part of the complex.

The top layer was a 0.15 m thick deposit of previously excavated material. Other than pottery, it again included numerous fragments of terracotta figurines. The represented types included Aphrodite anadyomene, Aphrodite strophion, Aphrodite of Knidos, Aphrodite seated on a high-backed chair, Athena, Kybele seated on a throne flanked by lions, Tyche holding a rudder and cornucopia standing within a columnar shrine, Nemesis, Eros holding Psyche, Hermes, a *kourotrophos* or nursing woman, and busts of women.

The underlying layer of compact silty soil with a thickness of 0.11 m appeared to be *in situ* and contained pottery and fragments of terracotta figurines that could be attributed to the 1st century BCE-1st century CE. It was deposited on top of the surface of a compact deposit of silty soil (locus 8) with many small limestone fragments and a thickness varying between 0.12 m and 0.22 m. The few ceramic finds, only present in the top part of the layer, could be attributed to the Early Roman Imperial period, providing a *terminus post quem* for the arrangement of this level of deposition. Underneath, the limestone bedrock was present.

[9] Perrin 1991.

Room 4, a natural cavity with trapezoidal plan, 2.40 m long (NW-SE) and 1.40 m to 2.30 m wide (SW-NE), is equally situated in the central part of the complex, between Room 1 (to the east) and Room 2 (to the west), and at a level below Room 3 (to the north). This room was originally located at the western end of the corridor (Room 1) but the collapse of the ceiling eventually separated both spaces (Fig. 8).

Unfortunately, the illicit excavations that occurred during the last decades of the 20th and the beginning of the 21st century, also took place in this part of the complex. They have rendered the stratigraphy of the space largely illegible because it now lies buried beneath thick deposits of large limestone blocks that were piled up there by the looters and cannot be removed through the small openings leading to the space.

A 1.15 m thick deposit of previously excavated material was found throughout the space. In addition to numerous fragments of pottery and terracotta figurines dating to the Roman Imperial period (mainly 2nd century CE), as well as some pieces of building ceramics, it included an almost complete terracotta figurine of Eros and Psyche embracing each other, and an iron sewing needle. As could be told from the orientation of its sloping surface, the excavated material was deposited into Room 4 from Room 3, the higher situated space to the northeast of Room 4. As this was also the space from which the material found on the surface of Room 1 originated, it too appears to have been a dump for the clean-up of the sanctuary, similar to Room 2.

Only in the northeastern corner of Room 4 could *in situ* deposits be reached. Firstly, a 0.17 m thick fill of silty soil was encountered which included early 1st century CE ceramics and some butchered bones of cattle. It was on top of this deposit that part of the limestone ceiling fell, closing off Room 4 from Room 1 and preventing access to the space from the corridor. Underneath, a floor substrate of hard clayish soil with many charcoal remains was found, arranged sometime during or after the 1st century CE according to the ceramics it contained. The substrate could only be partly excavated due to the presence of large limestone blocks. This was the lowest excavated deposit in this space.

Fig. 8. View of Room 4
and its collapsed ceiling from the west
(© Sagalassos Archaeological Research Project).

Fig. 9. Late Chalcolithic pottery from RS
(© Sagalassos Archaeological Research Project).

The occupational history of the site

During its use, RS was a 'place', as a culturally significant locale that existed within a landscape and was meaningful to specific cultural groups through everyday experience and shared stories associated with them[10]. Throughout history, human beings found cave-like spaces alluring, often as a place of divine immanence and a zone of contact with the underworld, but also fulfilling several other functions[11]. In order to understand the significance of this cave-like site in the ancient landscape of Sagalassos, we need to look not only at its location and form, but also at the artefacts that were deposited there. While the general appearance of the site remained largely unchanged throughout the ages, it is the artefacts that can inform on the nature and chronology of its usage. Artefacts are of crucial importance for understanding the function of the locale. The presence of specific artefact categories, the relevance between various artefacts, their specific contexts, and the manner of their deposition, all manifest social action and provide the particular character of the site[12].

Analysis of the material culture from the excavated contexts situated the main use of RS between the early 2nd century BCE and the early 3rd century CE; few 4th century CE shards present among them indicated that people still visited the site in late antiquity. The presence of some Middle Byzantine ceramics, most of which were associated with a probable hearth, pointed at the renewed occupation of the crevices, after a gap of many centuries. Interestingly, residual prehistoric shards dating to the Late Chalcolithic period were also found among the excavated assemblages. These three different chronological phases of usage of the site will now be discussed in further detail in order to understand the nature of its occupation during those different periods.

A Chalcolithic burial site?

In addition to the many categories of votive offerings that were found at the site, perhaps the two most surprising elements were the discovery of human remains and Late Chalcolithic pottery. Some of the 38 shards of hand-shaped pottery could be fitted suggesting that they belonged to a limited number of vessels that were deposited at the site, including a cup and a bowl (Fig. 9). These shapes have been dated elsewhere to the Late Chalcolithic period (4000-3200 BCE)[13]. Other than the aforementioned two almost complete bones, the retrieved human bone material consisted of 222 unburnt bone fragments, 25 teeth and 28 burnt bone fragments. The majority could not be assigned to a specific skeletal element. Most identified fragments were derived from the lower limbs, with a minority from the upper limbs, the skull, spine and the pectoral and pelvic girdle. One tooth could be identified as non-adult. Most bones were small long bone diaphyseal fragments. Age could not be estimated with certainty, although the size of the bone fragments suggested they did not belong to children; also sex could not be determined. The right

[10] Harmanşah 2014: 1.
[11] Mavridis *et al.* 2013.
[12] Mavridis *et al.* 2013: 2-3.
[13] Duru 2008: 135-141.

proximal femur, the right distal fibula and the right second metacarpal showed a minimum number of individuals (MNI) of two, while the right distal anterior tibia showed a possible MNI of three. The presence of a non-adult molar also suggests an MNI of three, with one non-adult in addition to two adults.

Unfortunately, nearly all these bones and prehistoric shards were found out of context, in previously excavated deposits both within and outside of the natural cavities. Yet, the presence of two almost complete bones of a lower leg in the lowest excavated deposit in the SW Area of Room 2, found between large limestone blocks together with a large fragment of a Chalcolithic bowl, suggests that this was probably the original place of deposition which had been disturbed by later usage of the space. The levelling deposits with Chalcolithic ceramics found in Room 1 can perhaps also be linked to the prehistoric use of the cave-like complex. They were most probably arranged there to facilitate the access to the inner spaces, although it cannot be ruled out that this occurred at a later point in time with the shards present in those deposits as residual material. Nevertheless, a prehistoric occupation phase of the site is certain.

The large amount of human bone found in deposits inside Room 2, as well as in the dumps of the illegal excavations outside of that space suggest that it originally served as a place for entombment. The use of the cave-like spaces as part of a sanctuary during the Hellenistic and Roman Imperial periods rules out that the human remains can be attributed to this phase of usage, as interment within sanctuaries was strictly forbidden during classical antiquity[14]. Furthermore, the presence of *in situ* late antique deposits on top of some of the bones and pottery rules out a later date as well, which brings us to the earlier use of the site during the Chalcolithic period. The variety of ways to bury the dead expanded significantly during this period throughout the Mediterranean, with caves and subterranean spaces becoming common places for the dead[15]. Caves as places of burial during the Chalcolithic period are also attested in southwestern Anatolia as illustrated by the burials in the cave of Öküzini near Antalya[16]. The combination of skeletal material together with Chalcolithic pottery in one of the lowest excavated deposits is therefore interpreted here as an indication of the use of the crevices as a burial ground during the 4th millennium BCE. Given the small number of vessels and individuals, this usage appears to have been brief.

In any case, the assemblage represents the earliest traces of human settlement in the immediate vicinity of the later city of Sagalassos and can undoubtedly be linked to the increased settlement activity in the wider area of the Ağlasun Valley during the Late Chalcolithic period[17].

[14] Mikalson 2004: 8.
[15] Rowan 2018: 134-137.
[16] Kartal and Erek 1998.
[17] Vandam *et al.* 2017.

A Hellenistic and Roman Imperial period sanctuary

The lack of subsequent pre- and/or protohistoric deposits indicate an interruption in the occupation of the site until the Hellenistic period. The high quantity of Hellenistic material dating to the 2nd and 1st centuries BCE, albeit found mainly in later, Roman Imperial period deposits, indicates that the cave was again used from that time onwards. The great majority of the pottery retrieved at the site is of local production and can be safely dated between the 2nd century BCE and the early 3rd century CE, with a clear focus in the 1st centuries BCE and CE[18]. Yet, the fact that much of the stratigraphy was disturbed by illicit excavations does not allow a more precise date for most loci, and even *in situ* deposits display this relatively wide chronological range of pottery. Some fragments clearly predate the 1st century BCE: several vessel shapes were identified that are strongly tied with earlier Hellenistic if not pre-Hellenistic traditions. At the other end of the main period of use of the sanctuary, there is a considerable amount of 2nd century CE pottery. Moreover, there is a small quantity of the locally manufactured Sagalassos Red Slip Ware (hereafter SRSW) that typologically belongs to the 4th century CE, material that can most probably be related to the end of the sanctuary (see below).

As suggested by the different categories of specialised material culture that could be identified as votive offerings, it now assumed another function, becoming a cult site. Interestingly, this establishment of the sanctuary occurred shortly after the community of Sagalassos developed into a city-state and is perhaps related to the place of different social groups within this new constellation[19]. Since elements of material culture are held to reflect cultural values and religious beliefs that are understood to prefigure them, the materiality of cult will be used here as a basis for reconstructing rituals, establishing the concerns that they addressed, and ultimately identifying the people involved. Yet before turning to that, first the ritual space of the sanctuary will be addressed.

Ritual space

In the landscapes of the ancient Mediterranean, natural formations like caves and other types of cavities were often thought of as places beyond the world of the living. As naturally numinous places that embodied the powers inherent in nature, people were drawn to them and established sanctuaries there, giving the natural landform a cultural significance[20]. As mentioned above, the distinctive topographical feature at the heart of RS is a cave-like space, consisting of large crevices in the rock outcrop which are covered by huge blocks of limestone, somewhat similar – *mutatis mutandis* – to the situation of the better-known sanctuary of Kapıkaya in the territory of Pergamon[21].

Except for the possible, minor interventions noted near the entrance in the southeast part of the outcrop, neither the outcrop nor any of the investigated spaces displayed any

[18] Poblome *et al*. 2018.
[19] Talloen and Poblome 2016: 117-120; Talloen 2019a: 191-193.
[20] Bradley 2000: 25-27; Mavridis *et al*. 2013: 1.
[21] Nohlen and Radt 1978.

signs of an attempt to modify and shape them architecturally. Outside of the cavities, there are no signs of any significant architectural modification, although the substantial amount of roof and cover tile fragments recovered from the site does suggest that one or more places in the sacred area of the sanctuary were roofed. These were perhaps small 'picnic' spots where the ritual dining took place (see below). Since all sacrifices generally had to be consumed within the sanctuary[22], the presence of appropriate cooking facilities and a suitable eating place is to be expected. Yet, the absence of other durable building material, such as carved stone blocks or bricks, suggests that they were only semi-permanent structures in mainly perishable materials. Also the fragments of large storage vessels or *pithoi* point to installations being present in or around the sanctuary, as these vessels were unlikely brought by people visiting the sanctuary. Possibly they contained water for use during actions in the sanctuary, or otherwise could have supplied visitors with drinking water. Several pieces of terracotta water pipes equally suggest the presence of a water installation of some kind. As purification by water upon entering a sanctuary was a standard ritual necessity[23], the existence of such an amenity would not be surprising.

Within the crevices only the laying out of floor levels (or levels of deposition) through the arrangement of fill deposits could be established. Especially the Roman Imperial period, more specifically the 1st and the early 2nd centuries CE, saw the addition of several floor levels in Rooms 1 and 4, which suggests an intensive use of the cult site at this time. Unlike the Roman deposits in Rooms 2 and 3, the *in situ* deposits in Room 1 could be characterised as floor levels which did not contain large amounts of votive material, corroborating the identification of the space as a corridor or passage way to the actual centre of the cult site. The latter was most probably situated in the centrally located Room 4, where (some of) the rituals could have taken place. Altar(s) and cult image(s) may originally have been present in this central space of the outcrop, although a natural feature could have been used instead. Whatever its exact shape, it is clear from the presence of several used oil lamps found among the votive offerings (Fig. 10) that this central space will have been dark and cave-like, and therefore numinous in the mind of the ancient population, a place where humans could communicate with the divine world through religious ritual. So, experience of the inner part of the cavern will have been an essential part of the rituals that took place there.

Overall then, the appearance of the site is that of an unaltered feature of the natural landscape. There are no traces of monumentalisation, nor any representational (e.g. statuary or rock-cut reliefs) or epigraphic content (i.e. public or private inscriptions). Not even any obvious modifications to meet the requirements of worship, like rock-cut steps, benches or votive niches were recognised. The natural place was turned into a cultural place simply through the deposition of artefacts (see below). All this identifies it as a 'natural sanctuary', not a monument constructed by human labour but a non-monumentalised cult site with a natural feature – *in casu* a cave-like crevice – as primary recipient of worship[24].

[22] Dignas 2007: 173.
[23] Bendlin 2007: 181.
[24] Bradley 2000: 34; Mylonopoulos 2008.

Fig. 10. Roman Imperial period oil lamps from RS (© Sagalassos Archaeological Research Project).

Although the civic community was undoubtedly knowledgeable about its natural environment and thus aware of the existence of the rock outcrop and its cavities, something that is corroborated by the fact that the sanctuary already came into existence shortly after Sagalassos became a city, at no point during its more than 400 year long life was there any attempt to monumentalise the cult site. Even when the site experienced a boom in popularity during the Early Roman Imperial period, as evidenced by the number and quality of the votive offerings left there (see below), this did not translate into a modification of the natural setting. All this indicates that there was a deliberate choice not to invest in it architecturally. Consequently, it did not come to dominate the (sacred) landscape and assume a more powerful role in the life of the civic community, unlike other natural sanctuaries in the region such as Arpalık Tepe near Selge, Eleksi Tepe near Mallos, İnarası near Keraia, and Zindan Mağarası near Tymbriada[25]. Such a monumentalisation of natural cult sites can be seen as part of the political appropriation of particular local practices by the ruling elite, which introduced monumentality and public spectacles to these already significant sites of cultural practice while they were used by different cultural groups[26]. Conversely, the absence of signs of official involvement – not only monumental architecture, but also civic priesthood and monumental writing – would situate the sanctuary outside of the sphere of public/*polis* religion[27]. RS can therefore be characterised as a (private?) cult site that was established by ordinary people and remained a focus of popular cult throughout its existence.

Ritual acts

In spite of the lack of monumental markers, RS retained its sacred function over several centuries and knowledge of the place was handed over from generation to generation.

[25] For an overview see Talloen 2015: 236-240; for İnarası near Keraia see Ekinci and Zenger 2017.
[26] Harmanşah 2014: 3.
[27] Kindt 2009.

Although commemoration generally occurs through the construction of monuments, another way of creating memories is through ritual acts[28]. For such an event to be remembered, it had to be an active process conducted between successive generations of people if it were to have any importance, as there were no obvious visible reminders[29]. For the case of RS, this continuance is brought out by the uninterrupted deposition of objects between the early 2nd century BCE and the early 3rd century CE. Such persistence hints at a shared body of knowledge that was part of local identities.

Although most of the examined contexts had fallen victim to illicit excavation, the observed consistency of the material assemblages throughout disturbed and undisturbed contexts was remarkable. This demonstrates that the deposits from RS are still representative for the original composition of the votive assemblages and therefore valuable for archaeological research. Judging by the material assemblages retrieved from the cult site, two kinds of ritual behaviour occurred throughout its history: the consumption of ritual meals and the deposition of votive offerings.

1) Ritual meals

Both the dumps of the illicit excavations as the *in situ* deposits contained finds – namely pottery and faunal remains – that could be identified as the debris of meals which were held at the sanctuary throughout its lifespan. What pottery did people bring with them when they visited the cult site? In terms of function, since the majority of fragments concern closed and open forms of locally produced tableware[30], we can envisage a place where they came to dwell on and celebrate specific occasions, and to that purpose brought food and beverages to do so.

Two main functional groups of pottery can be distinguished. The first consists of slipped table wares, vessels used for the consumption and serving of food and beverages: plates, bowls, dishes, cups, but also smaller and larger jugs. The earliest pottery related to such meals has been dated to the first half of the 2nd century BCE, and local versions of vessels with West Slope-style painted and incised decoration (Fig. 11a) also likely belong to the second century BCE[31]. Typical shapes that belong to the Late Hellenistic phase more generally include plates with upturned rims (Fig. 11b), *mastoi* and related drinking cup shapes[32], various bowls and dishes, *lekanè* or *lekanè*-like vessels (for preparing wine?)[33] as well as the occasional down-turned rim plate. Fishplates and mouldmade ('Megarian') bowls were not identified. The Early Roman Imperial evidence is to an important extent represented by a range of SRSW types[34]. Cup types 1A100, 1A110-1, 1A130, 1A160-1 and to a lesser extent 1A150 are very well represented and, given their date ranges and typological appearance, represent successive stages of use of RS during the first two

[28] Bradley 2000: 157.
[29] Bradley 2000: 158-159.
[30] More generally also see Van der Enden *et al.* 2014.
[31] Rotroff 1991.
[32] Van der Enden *et al.* 2018.
[33] Daems *et al.* 2019: 86-88, fig. 2.
[34] For detailed discussions of the various types of SRSW mentioned, see Poblome 1999.

centuries CE. This timeframe is further corroborated by bowls (mostly types 1B170 and especially 1B190-1) and dishes (types 1C100 and 1C120-3 in particular). A rather broad range of other SRSW bowl, dish and plate types are present but usually in smaller numbers. *Lekanè* type 1F150 was, on the other hand, fairly common.

The second group concern vessels in fabrics that are suited for storage and cooking, although the question remains whether people visiting the sanctuary frequently prepared food on the site. The fair quantity of closed vessels, as well as the relatively limited number of actual cooking vessels, suggest that people presumably brought their meals and beverages to this place rather than preparing them there. Nevertheless, this should not completely be excluded given the presence of cooking utensils among the finds, such as the Late Hellenistic cauldron fork used for the boiling of meat in a cauldron, a part of the obligatory

a

b

c

Fig. 11. Hellenistic ceramics from RS: a. two fragments with incised-and-dot painted West Slope-style decoration, datable to the Late Hellenistic phase of RS. The fragment on the right belongs to a *lekanè*; b. fragments (giving a complete profile) of an upturned-rim plate with a partly preserved stamp at its centre, presumably datable to the (middle/second half of the?) 1st century BC; c. a shallow and small-sized dish (miniature?) (© Sagalassos Archaeological Research Project).

Fig. 12. Partly restored bases of unidentified (closed) vessels of local manufacture, possibly kraters (© Sagalassos Archaeological Research Project).

equipment of the sacred cuisine[35]. The relatively low number of faunal remains related to consumption, which stands in contrast with the large amounts of pottery related to dining, also suggests the preparation of meals outside of the sacred precinct. Together with the lack of charred remains among the animal bones representing altar-burnt sacrificial materials, this also indicates that animal sacrifice will not have been a very common or important ritual at RS. The meat of such sacrifices generally had to be consumed within the sanctuary, which in turn would have yielded a far greater amount of animal bones than actually retrieved. The excavated faunal remains related to consumption mainly consisted of chicken, the cheapest (sacrificial) animal but also the one favoured by certain gods, such as Aphrodite and Asklepios[36]; skeletal elements of sheep and goat – especially canon bones (metapodials) – were also represented, as well as some pig and cattle.

Among the common ware vessels are about a dozen of reconstructed bases (Fig. 12), known also from contexts within the urban area of Sagalassos where they date to the Early Roman Imperial period. These can be classified under one type of vessel, possibly krater-like used for mixing wine with water, and thus hinting at the consumption of wine at the cult site.

The overall repertoire of the pottery as well as its quality, in comparison to other contemporary excavated contexts from the urban centre, basically represents nothing out of the ordinary. The ceramic picture that emerges from these two categories is that which one might expect in a household. In other words, what people brought along presumably came from their own households. This could explain the observed limited functional variety on the one hand, and the rather broad morphological range on the other. What was brought to the sanctuary had an internal logic and was likely related to the number of people in one specific group, as well as to what would be consumed.

These various functional categories allow us to picture how an assemblage used during a ritual meal in the sanctuary – theoretically – could have looked like (Fig. 13), which very

[35] Durand and Schnapp 1989: 56.
[36] Villing 2017.

Fig. 13. Partly restored locally manufactured vessels, a theoretical reconstruction of the main functions/vessel types used in a ritual meal during the Early Roman Imperial period (© Sagalassos Archaeological Research Project).

likely included bowl type 1B191 (bottom left) and cup types 1A130 (bottom right) and 1A161 (centre right). The partially reconstructed vessels, a *chytra* (top left) and some form of *lopas* – a low, shallow vessel used for frying or stewing (centre bottom) could have been used for preparing food, though, as pointed out already, previously prepared food was likely brought, quite possibly in such and/or other vessels. However, the *lopas*-like vessel, possibly a cauldron, is of sizeable dimensions and filled with food may have been unpractical to carry. It is a rare find of some interest: combined with the iron fork mentioned above provide tentative albeit tantalising clues that people may have enjoyed a fondue *avant-la-lettre*.

No large sets of dining accoutrements, like those recently discovered at a cave sanctuary in Pergamon[37], have been retrieved at RS. Together with the lack of other indications for some form of communal organisation such as the arrangement of sizeable dining spaces, this suggests that the meals held at the cult site appear to have involved smaller groups of people, bringing their own crockery, not the celebration of communal festivals. Such ritual meals were typical occasions at which the common identity of the group was reaffirmed[38]. So, we could possibly envisage family groups who came to the sanctuary to ritually celebrate an important social event in their private lives and enjoyed a meal together in small makeshift shelters outside of the cavities.

In contrast with the numerous local products only a tiny quantity of imported pottery could be recognised, which thus far concerns six fragments (i.e. 0.04% of all pottery) and likely an equal number of individuals (Fig. 14). This includes three lead-glazed vessels, including one *skyphos* (top right) datable to the (mid-)1st centuries BCE-CE. Although Perge in Pamphylia is a likely source, the (macroscopic) fabrics of these three fragments show some variation. Another fragment originates from southern Lycia, quite possibly from the vicinity of Limyra (where it is extremely common), a category of cooking and

[37] Engels 2015; 2019.
[38] Mylonopoulos 2006: 83-84.

Fig. 14. Fragments of non-regional provenance: Top row, Lead-Glazed vessels (a *skyphos* base top right) one or more presumably manufactured in Perge; Bottom right, a handle fragment of a vessel manufactured in the area of Limyra (southern Lycia) (© Sagalassos Archaeological Research Project).

utilitarian wares ('pâtes lyciennes kaolinitiques')[39] that is recognised now and then in Sagalassos. The meaning of these handful of imports is not entirely clear. It is difficult to imagine that such imported vessels (and their rarity) – certainly the usually green-and-yellow lead-glazed examples – escaped the attention of the inhabitants of Sagalassos, and an 'exotic' connotation may have enhanced their cultural significance. On the other hand, they also feature sporadically among assemblages found in the urban centre and may therefore simply reflect what was available at the time.

Upon viewing the pottery evidence from RS as a whole, in particular the SRSW, one can hardly escape noting its somewhat motley appearance. This heterogeneity concerns slip colour (a range of colours and a mottled appearance being more common features for the Late Hellenistic period), for example, and also the quality – a judgment that inevitably rests on thin ice – does not generally represent the top end of what the local potters were capable of during the Roman Imperial period. There is of course our broad chronological perspective, and the pottery has obviously suffered from various human and natural phenomena during and after the period of use of RS. Yet, this perceived heterogeneity can tentatively be brought in relation to the status and purpose of the sanctuary or could also hint at a certain pragmatism: knowing they had to leave behind their utensils upon leaving the sanctuary people may have chosen not to bring their finest.

2) Votive deposition

In terms of material residue, a religious practice that was even more important than the consumption of meals was the ritual of votive offering, especially from the Early Roman Imperial period onwards. Fundamental to the study of this ritual is the identification of material objects that were brought to the site as votive offerings. Because of the many situations in which they were used and the various functions they fulfilled, but also depending

[39] Lemaître *et al.* 2013.

on the socio-economic status of the votaries, votive objects could take on many forms[40]. As a result of standard shapes and imagery, the cultic nature of certain types of evidence like representations of deities, is fairly easy to establish. In many cases, however, ritual objects cannot be recognised as easily. Such objects were endowed by ritual with qualities that brought them into relation with the divine or made them conducive to the efficacy of the ritual, and thus caused them to enter the domain we label 'sacred', while there is nothing in their intrinsic nature that distinguishes them from objects of everyday use, like the implements used in cooking or pieces of personal adornment. Except when present in an explicitly cultic context such objects often remain undetectable. For example, the overwhelming number of terracotta figurines – literally thousands of fragments – that were found at RS, constitute a clear specialisation in the deposition of objects with a known ritual function that allowed it to be identified as a special-purpose site[41]. Consequently, other material categories from the same stratigraphical contexts can be interpreted in the same 'ritual light', as the figurines were contextually connected with this material culture, entangled within a web of materiality. Yet, it remains methodologically challenging to distinguish some votives from the artefacts that were used for ritual meals.

A full overview of the finds from RS will be presented elsewhere; it will suffice here to list the categories of offerings and only go into further detail for the most important ones. During the Hellenistic period, ritual remains other than pottery used in the ritual meals at the site were restricted to some glass and ceramic *unguentaria* or ointment bottles, as well as a handful of fragments of terracotta figurines. The celebration of the event with meals was obviously more important at the time than the offering of gifts, unless the latter were of perishable nature and left no traces in the archaeological record. The deposition of votive offerings increased dramatically during the Roman Imperial period. These now included purpose-made offerings such as lead and terracotta figurines, terracotta and metal plaques, miniature vessels in stone, glass, lead and terracotta, as well as miniature tools and mirrors. Furthermore, objects of the *instrumentarium domesticum* such as worked bone hairpins, pestles, spindles, whorls and distaffs, glass vessels (including a *millefiori* bowl), glass and ceramic *unguentaria*, stone cosmetic palettes for mixing makeup, metal and glass pieces of jewellery, ceramic oil lamps, metal finger cymbals, styli, and a few coins were found. Finally, the group of Mediterranean sea shells should also be counted among the votive gifts, since these were commonly dedicated to goddesses, especially to Aphrodite who had a close connection with the marine world[42].

A first significant category of votive gifts, in terms of quantity, comprises miniature vessels, a part of the pottery repertoire that has thus far not been encountered anywhere else in the urban area of Sagalassos and is therefore unique to RS, which further underlines the time- and place-specific character of the site (Fig. 15). Like other types of miniatures unearthed at RS, they can be distinguished as votive gifts on the criterion of size[43]. Some of these represent miniature versions of SRSW types that are well-attested, both in RS and

[40] Osborne 2004.
[41] Osborne 2004; Alcock and Rempel 2006.
[42] Theodoropoulou 2013: 210-211.
[43] Barfoed 2018.

Fig. 15. Miniature vessels in the locally manufactured Sagalassos Red Slip Ware, with fragments of cup types 1A160-1 on the right, and a lobed dish middle left (© Sagalassos Archaeological Research Project).

urban Sagalassos, such as cup type 1A160-1 (pictured in the right half of Fig. 15; Fig. 16a) the most common miniature type attested. Also identified are miniature versions of cup type 1A150 (Fig. 15, top left), bowl types 1B162 and 1B190, and dish type 1C130-3; the latter types are represented by only one or two specimens. It appears that whilst some miniatures were wheel-made, others were obviously handmade. The characteristic ledge handle of SRSW that normally was mould-made and subsequently applied horizontally onto the rim was on occasion also miniaturised and 'crudely' incised (unrecognisable here) in imitation of their mould-made counterparts (Fig. 16b). Although the date ranges of their 'originals' extends into the 3rd century CE, we presume these miniatures belong with the main phase of Roman Imperial use of RS, the 1st and 2nd centuries CE. Of particular interest is a partly restored miniature version of a lobed dish with incised rim (Fig. 15, centre left) – a 'normal-sized' version in SRSW is known from a 2nd century CE context from the Urban Mansion. This shape is extremely rare at Sagalassos and was possibly manufactured per individual order. A last group are miniature vessels made in a fabric (Fabric 237) which was previously attributed to Düzen Tepe, a site ca. 1.8 km southwest of Sagalassos that was occupied since Late Achaemenid times and eventually abandoned in the earlier 2nd century BCE. They appear as small carinated dishes with string-cut disc bases (Fig. 11c) that are not unlike more squatted, shallow versions of Achaemenid bowls[44].

Even if these miniature versions of pottery can hardly have served a practical purpose as part of a ritual meal, they may nonetheless have contained a bit of food or liquid when they were deposited as part of a ritual. The purpose of miniature vessels has received quite a bit of attention in recent years, including attempts at a classificatory system[45]. One of the results was that their purpose and meaning extended well beyond the notion that these were simply smaller and therefore more practical objects to carry and deposit[46]. Indeed, the quantity of miniature vessels at RS pales in light of the quantity of figurine fragments

[44] Daems *et al.* 2019: 85-86, fig. 2.
[45] Barfoed 2018.
[46] Martin and Langin-Hooper 2018.

a b

Fig. 16. a. A handmade miniature version of cup type 1A161, decorated with stylised bunches of grapes?; b. A miniature ledge handle with incised decoration (© Sagalassos Archaeological Research Project).

(see below). Given that RS partly functioned in relation to the upbringing and well-being of children (see below) these miniatures were perhaps a reflection of that element. This is not to say that these were originally toys – though they could have been – but that their size was a material reflection of the 'child dimension' of RS. Miniatures may in fact have appealed to the sense of perspective and imaginative world of children – as it (still) does today – more so than the normal-sized ceramic repertoire.

Locally produced, mould-made terracotta figurines constitute by far the most numerous category of votive offerings at RS during Roman times. Most of these terracottas survive in small fragments – more than 40,000 yielded by the rescue excavations alone – and only a limited number is better preserved, while none survives complete. The fragmentation of the figurines, like that of the pottery and most other finds from the sanctuary, is undoubtedly due to a number of factors but, above all, the clean-up during antiquity (see below) and the later robbing of the site must have been responsible for their poor state of preservation. A conservative estimate, based on the patterns of fragmentation, suggests a total of more than 3000 figurines, the largest number to be documented so far in a single site anywhere in Anatolia.

As cheap but specialised objects, affordable to all classes of society, terracotta figurines were a popular category of votive gifts in most regions of the ancient Mediterranean[47].

[47] Huysecom-Haxhi and Muller 2015.

Given that only few fragments of (Late) Hellenistic figurines could be registered, the finds from RS point to the predominant use of such images during the 1st and 2nd centuries CE, a development that can most probably be related to the start of their local mass production during the Early Roman Imperial period[48].

In the contexts that have been studied so far, ca. 40 % of the identifiable terracotta figurines consisted of representations of human individuals, belonging to different age classes (Fig. 17): young girls (depicted as students holding *tabellae* or writing tablets and as busts; Fig. 17d), young women playing musical instruments such as the harp and lyre (Fig. 17c), nurturing mothers or *kourotrophoi* (Fig. 17b), and especially shoulder busts of adult women (up to 80 % of all human images; Fig. 17a). Male figures, on the other hand, are only attested as boys (again as students and as busts; Fig. 17e) and adolescents (on horseback or as athletes; Fig. 17f), not as adults. Although these images are generic, not realistic portraits, they should probably be seen as representations of the votaries or the individuals for whom divine protection was invoked[49]; in the case of RS: women, children and youths.

Representations of deities were most common, making up some 59 % of all terracotta figurines. Among them figurines of Aphrodite proved predominant throughout all studied find contexts (69 % of all figurines of deities; Fig. 18a-d), followed by her son Eros (10.5 %) who was frequently accompanied by his girlfriend Psyche (Fig. 18e-f). Other female deities included (in order of frequency) Tyche, Athena, Nemesis, Kybele, Isis and Hygieia (Fig. 19a-c). Overall, male divine presence was restricted, with Hermes being the most represented god (4 %); others comprised Ares, Asklepios, Harpokrates, Herakles, the moon god Men, and Sarapis, all of whom were attested by only few examples (Fig. 19d-f). The absence of the leading civic gods of Sagalassos, Zeus and Apollo[50], is striking.

Figurines of animals are limited overall (less than 1 %). Most frequently attested are terracotta birds such a cocks and pigeons, the favourite (sacrificial) animals of Aphrodite[51].

In absence of inscribed votive offerings, the identity of the god(s) worshipped at RS can be approached through the identification and quantification of divine representations, as the proportion of the different typological categories of deities can be held to represent their relative importance at the cult site. Although it is not always the case that the tutelary deity of a sanctuary is represented by the largest number of figurines[52], the outright dominance of her representations, together with the corroborating evidence of animal images (i.e. pigeons) and marine shells, clearly single out Aphrodite as the main subject of worship at RS. This is somewhat extraordinary as there is normally a significant relationship between the physical configuration of places where sanctuaries were established and the gods to whom they were dedicated[53]. Although commonly associated with lush gardens with fruit trees and flowers, cave sanctuaries for Aphrodite are scarce[54]. This suggests,

[48] Talloen 2020.
[49] Huysecom-Haxhi and Muller 2007.
[50] Talloen and Waelkens 2004.
[51] Villing 2017.
[52] Alroth 1989: 112.
[53] Bradley 2000: 25-26.
[54] Bumke 2015.

a

b

c

d

e

f

Fig. 17. Terracotta figurines of human figures: a. female bust; b. *kourotrophos*; c. woman playing the harp; d. fragments of seated girls and boys with *tabellae* on their lap; e. fragments of busts of boys wearing a *chlamys*; f. fragment of a rider on horseback (© Sagalassos Archaeological Research Project).

a

b

c

d

e

f

Fig. 18. Terracotta figurines of Aphrodite and Eros: a. *Anadyomene*; b. *Genetrix*; c. *Strophion* (SA-1999-Y-6; height: 0.095 m); d. *Pudica*; e. two wrestling Erotes (SA-1999-Y-8; height: 0.07 m); f: Psyche and Eros seated on a throne, holding a pigeon (© Sagalassos Archaeological Research Project).

a b c d e f

Fig. 19. Terracotta figurines of other deities: a. Athena; b. Tyche/Isis and Nemesis; c. Hygieia; d. Hermes; e. Ares; f. Harpokrates (© Sagalassos Archaeological Research Project).

together with the fact that the goddess seems to have reached Pisidia only by the end of the Hellenistic period[55], that she was probably a later addition to a sanctuary that may originally have served the cult of another god(dess). Cave-like locations are often predestined for the cult of the Mother Goddess who, because of her strong ties to nature, was predominantly worshipped at naturally formed cult places[56]. Yet, contrary to other cave sanctuaries in the region, such as Zindan Mağarası (*Meter Theon Vegeinos*), Kocain (*Meter Oreia*), Karain (*Meter Oreia*), Eleksi Tepe (*Meter Malene?*), Dutalan (*Tyriose*), and Arpalık Tepe (*Meter Theon*)[57], clear evidence is lacking for RS. It is obvious from her limited number of terracotta figurines, however, that by the Roman Imperial period at least, Kybele only played a secondary role here and was overshadowed by Aphrodite.

The broad repertoire of divine representations retrieved from RS would suggest that the sanctuary was not exclusively the preserve of a single deity but that several deities were worshipped there. Having said that, the observed multiplicity may also be (partly) explained by the phenomenon of »visiting gods«: images representing one deity which were given to another deity, because of a special relationship between the gods or as a pleasing gift[58]. This phenomenon could account, for example, for the singular presence of certain deities such as Ares that would then have been given as a pleasing gift to Aphrodite. Yet, it has also been understood as indicating that people dedicated what they had at hand and that it did not matter much what they gave[59]. Such a simplistic approach to the agency of the votaries, however, does not account in this case for the generally limited presence of male deities compared to that of goddesses. As already mentioned, votive offerings took many different forms, but it would be wrong to think that no matter what could be dedicated. Votive gifts were always connected to the identity of the dedicators as these offerings reflected in their form the particular occupation or preoccupation of those who made them[60]. Moreover, the amalgam of goddesses represented at RS do share certain characteristics: they are all deities concerned with female fertility, womanhood, and the nursing and upbringing of children. Such dedications to kourotrophic divinities who nurtured the young, indicate a concern for female reproductive processes and the physical development of infants[61]. Rather than the coincidence of availability, it was the concerns these gods addressed that caused their presence in this extra-urban location, an observation that brings us to the people worshipping them.

Social groups/worshippers

Since none of the votives found at RS carry an inscription, except for two figurines signed by the coroplast Apelles, the identity of their donors is not known. Having said that, votive gifts, like other artefacts, carry the potential to reveal aspects of the identity of

[55] Talloen 2015: 186-187.
[56] Agelidis 2009; Ateş 2014.
[57] Talloen 2015: 236-241.
[58] Alroth 1989.
[59] Alroth 1989: 65.
[60] Osborne 1987: 185.
[61] Cole 2004: 213-214.

the votaries, such as gender and status[62]. Especially when not simply reproducing modern prejudices about the significance of individual artefacts and their links with different categories of people, so that weapons, for example, have exclusively male associations and ornaments are associated with women, but considering their complete archaeological context, possible identity-related objects can be revealed[63].

Natural sanctuaries such as RS are normally located in the rural sphere and have therefore often been associated with simplicity (or even poverty) and worshippers from the lower strata of the population, something which has recently been criticised[64]. Natural sanctuaries are now understood as expressions of religious structures and needs, not as reflections of social hierarchies. Given its close proximity to the urban centre, RS was undoubtedly frequented by the people of Sagalassos. This is also corroborated by the finds. Not only were the tableware used for ritual feasting, as well as the votive offerings in the shape of figurines and plaques locally produced, but also the import of some of the votive gifts, including lead-glazed pottery and coins from Perge in Pamphylia, sea shells from the Mediterranean, and even *millefiori* glass vessels from possibly as far away as Egypt, indicate an urban rather than a rural origin for the sanctuary's clientele.

The activities of the urban populace were often reflected in the sanctuaries found immediately outside the town. These suburban sanctuaries acquired much of their character by being adopted by one or another social group. Some of these groups were part of official, civic groups, but not essentially so. The sanctuaries outside the city walls provided religious foci which were not constrained by the political space within the town. These cult sites provided the space in which a member of the community could be social without being political[65]. They are locations where aspects of religious practices other than the civic ones of *polis* religion, that have often dominated research into ancient religious life[66], can be approached. RS provides a case where we can study religious practice of social groups outside of the dominant sphere of the *polis*.

Even if associating material culture with social groups is a difficult issue, the subject matter of the terracotta figurines from RS already points to certain groups. Images of human individuals retrieved from RS consisted for the most part of busts of girls and women (79 % of all mortals), with boys and young males (6.5 %) a distant second. Other frequent types were female musicians, girl and boy students, and adolescents on horseback; adult men do not feature at all. As mentioned above, they can probably be identified as representations of the worshippers themselves or of the people for whom they were asking protection, being girls, boys and women. Figurines in the past were perceived as being imbued with personhood and when representing sexed bodies could be used in the formation of gender and age[67]. They were therefore an appropriate item in rituals linked with the female life cycle.

[62] Allison 2015.
[63] Bradley 2000: 55.
[64] Baumer 2014.
[65] Osborne 1987: 168.
[66] Kindt 2009.
[67] Insoll 2017: 6.

As far as representations of deities are concerned, Aphrodite clearly stands out. She was the standard for female beauty and patron of the sphere of sexuality, and her cult was emphatically the preserve of women[68]. Nearly all other represented divinities – Eros, Tyche, Athena, Kybele, Isis and Hermes – are equally concerned with femininity or the vitality of children and the future of the family.

In addition to the overriding female character of the figurines, other categories of votive offerings include objects typically associated with women (Fig. 20). For example, the tools used in spinning and weaving – essential skills of housewives and brides-to-be – were dedicated: needles, loom weights (Fig. 20a), spindles, spindle whorls, and distaffs. The distaff in particular was a tool usually associated with the status of women as matron or lady of the house (Fig. 20b)[69]. Other find categories such as (miniature) mirrors (Fig. 20d), worked bone combs and hair pins (Fig. 20c), ceramic and glass perfume bottles, and metal and glass pieces of jewellery (Fig. 20e-f), all belong to the sphere of beautification and are traditionally identified as archetypical female attributes[70].

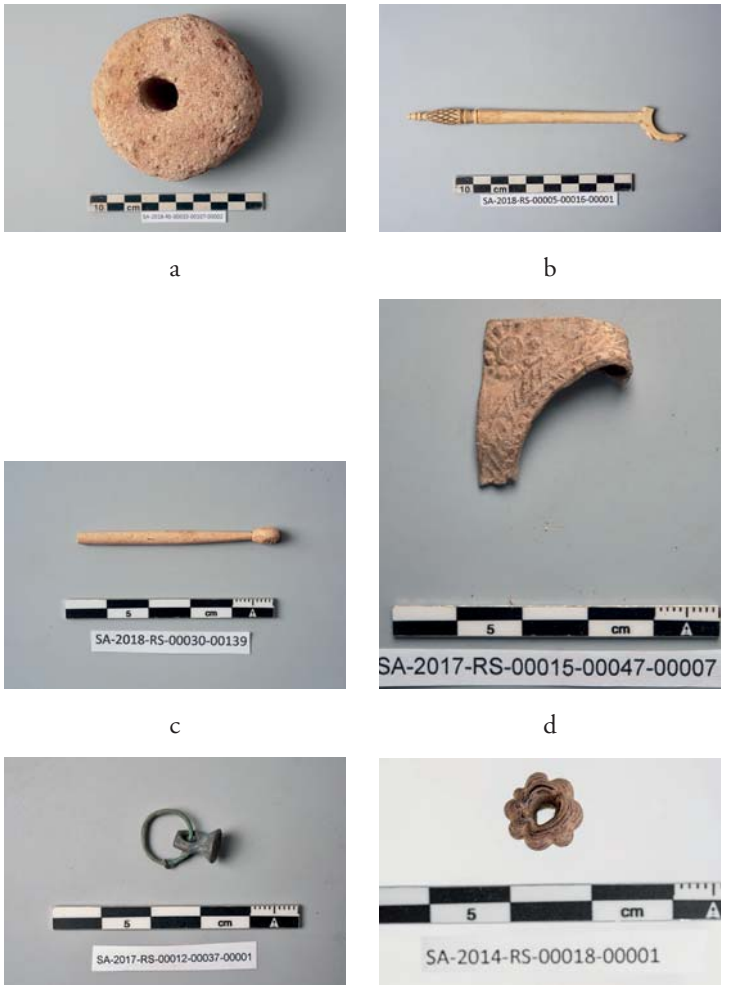
The presence of copper-alloy writing utensils or *styli* among these finds may at first seem out of place (Fig. 21). Yet, when also considering the presence of terracotta figurines of seated children – boys and girls – holding a diptych or writing tablet on their lap, it is clear that literacy, as part of the education of children, was also one of the concerns that was addressed at the sanctuary.

Overall then, the assemblage yields a consistent picture of womanhood as the dominant theme of the sanctuary, at least for the Roman Imperial period, and of women as the social group most probably responsible for their dedication. Given that these offerings occurred as part of small group celebrations of private social events as indicated by the ritual meals, their ritual efforts at RS most probably focused on the female life cycle with human fertility and reproduction, as well as the raising and education of children as central themes.

Abandonment of the cult site

The accumulation of votive offerings appears to have come to an end during the early 3rd century CE, which would suggest that RS was abandoned as a cult site shortly afterwards. It is true that there are no signs for the production and use of terracotta figurines at Sagalassos after the first half of the 3rd century CE, at RS or elsewhere in the city until the 5th century CE[71]. At first sight, this could explain the absence of votive figurines, yet the same is also true for all other categories of votive gifts. Although the possibility of a worship leaving no material traces cannot be fully excluded, the nature of ancient religious practice in the region, focussing on the performance of rituals defined by symbols and objects[72], makes this highly unlikely.

[68] Pirenne-Delforge 2007.
[69] Cremer 1996; Trinkl 2004.
[70] Swift 2011; Allison 2015.
[71] Talloen in press.
[72] Talloen 2015: 7-11.



a b c d e f

Fig. 20. Overview of gendered votive offerings: a. terracotta loom weight; b. worked bone distaff; c. worked bone hair pin; d. fragment of the lead frame of a miniature mirror; e. copper-alloy pendant; f. glass bead (© Sagalassos Archaeological Research Project).

Fig. 21. A copper-alloy *stylus* (© Sagalassos Archaeological Research Project).

The reason for its abandonment is not clear, but the end date cannot be related to the rise of Christianity in the city as this phenomenon only made its mark from the later 4th-early 5th century CE onwards[73]. Internal developments within traditional polytheistic religion seem more likely. As already pointed out by Beatrice Caseau, the ancient religious landscape was a dynamic one: cults flourished and disappeared[74]. Christianity was not responsible for all those changes. There was an internal dynamic of the polytheistic cults as well, and this may have been responsible for the situation at RS. The cave sanctuary at Pergamon, for example, a site dedicated to the cult of the Mother Goddess, lost its popularity at the end of the 1st century BCE. The crockery of the site, as well as some of the votive offerings were then ritually buried inside the sanctuary[75].

A loss of popularity of the deities worshipped at the site seems unlikely at the beginning of the 3rd century CE. As goddess of love and beauty, Aphrodite – the main subject of worship at RS – undoubtedly continued to play a dominant role in the life of women at Sagalassos, given the reproductive concerns and family responsibilities she addressed. Moreover, she even achieved a public profile during the Middle Roman Imperial period (2nd-3rd centuries CE). This is suggested by the erection of monumental statues of the goddess in public spaces such as the Hadrianic Nymphaeum and the Roman Baths[76], as well as the issue of a civic coinage type carrying the effigy of Aphrodite *anadyomene* accompanied by Eros during the reign of Severus Alexander (222-235 CE)[77]. While she was completely absent from manifestations of officially sanctioned worship during the Early Roman Imperial period, the goddess became prominent in the city-scape during the Middle Roman Imperial period. The same is true for the Egyptian triad of Isis, Harpokrates and Sarapis. These foreign deities were no members of the civic pantheon when they entered the Pisidian cities through the activity of private individuals rather than as a result of any official intervention. This seems again to be confirmed by the earlier dates for the popular manifestations of their worship – like the 1st century CE figurines from RS – when compared with the public sources appearing from the later 2nd century CE onwards[78].

These kinds of developments are illustrative of an ongoing recuperation effort on the part of the civic officials whereby the ancestral religious tradition gradually enlarged itself to include originally private cults. The officials thus reduced the 'tension' between the official pantheon and the popular cults in order to prevent the former from becoming fossilised and to keep it relevant for the members of the community[79]. It is tempting to relate the abandonment of RS, focussed on the cult of several deities that obviously continued to remain popular in the religious life of the community of Sagalassos, to such an 'officialisation' of the cult(s). Such a process would have rendered the popular cult site at RS redundant as it was then replaced by an official cult site in the urban centre. It would

[73] Talloen 2019b.

[74] Caseau 1999.

[75] Pirson *et al.* 2015; Engels 2019.

[76] For the statue of Aphrodite from the Hadrianic Nymphaeum: Mägele *et al.* 2007: 485-486; for that of the Roman Baths: Waelkens *et al.* 2011: 10.

[77] Levante and Weiss 1994: n° 1811.

[78] Talloen 2015: 197.

[79] Talloen 2015: 197.

also help to explain the total lack of monumentalisation at the site, in a period when several other cave sites in the region received a monumental make-over (see above).

Whatever the case, it is clear that by the middle of the 3rd century CE cult activity at RS had come to a halt. Activity at the site is again attested during the (later) 4th century CE, in the form of shards of few vessels of local manufacture – which include early versions of (drinking) cup types 1A140-3 – present in nearly all the *in situ* deposits that are characterised by the mixed assemblages of offerings. It was already mentioned that the majority of these objects were very fragmented and weathered indicating that they had been exposed to the elements for quite some time before they were buried inside Rooms 2 and 3. As these deposits also included fragments of roof tiles, we appear to be dealing with a general clean-up of the sanctuary which caused the cavities to be filled up with everything that was found lying around, votives as well as roof tiles belonging to shelters built around the outcrop. So rather than the *in situ* deposition of votive offerings or the gradual accumulation of ritual waste – representing the regular tidying of the remains of ritual activities – the deposits were primarily the result of a single operation sometime in the 4th century CE. At this time, an involvement of Christianity is possible as Christians were becoming increasingly militant in the urban centre of Sagalassos during the second half of the 4th century CE; their actions resulted in the conversion or closure of several sanctuaries by the end of that century[80]. Likewise, they may very well have chosen to clean up the abundant remains of pagan worship at the extra-mural site of RS once and for all, something that may also help to explain the generally very fragmented nature of the votive offerings.

It was on top of the clean-up deposits and contemporary floor levels throughout the spaces, that large blocks of limestone were found that can most probably be attributed to the collapsed ceiling of the complex. This suggests that after its definite abandonment in the late 4th century CE, the site was probably struck by the earthquake that also devastated the urban centre of Sagalassos around the middle of the 7th century CE. The seismic catastrophe caused some of the old connections between the spaces to be closed-off, making the central space, Room 4, largely inaccessible. It was followed by the deposition of colluvium in some spaces.

A Middle Byzantine place of refuge?

Centuries later, a new floor level was arranged inside the now much diminished space of Room 1 on top of the partly collapsed ceiling and the colluvium that had accumulated, during the Middle Byzantine period. A total of 28 fragments representing a small number of vessels of Middle Byzantine date (late 12th-early 13th century) were found in floor deposits as well as in the fill of a pit containing some charcoal, ashes and faunal remains that can probably be related to food preparation (Fig. 22). In addition to shards of storage and cooking vessels (including a lid), the pottery included a number of fragments of a glazed plate in incised *sgraffito* ware, a relatively precious, imported table ware, only attested in significant numbers at Sagalassos in the short-lived Byzantine fort on top of Alexander's

[80] Talloen 2019b: 178-180.

Fig. 22. Fragments of Middle Byzantine pottery, including fragments of one yellow-glazed dish (right), a lid (centre bottom) and a handle of a cooking vessel (bottom left). The fragment middle left could be Modern and of local manufacture (© Sagalassos Archaeological Research Project).

Hill in the southern extremity of Sagalassos[81]. What exactly these later vessels represent at RS remains speculative.

The latter half of the Middle Byzantine period (11th-12th centuries) was a time of conflict between the Byzantines on the one hand and the Seljuks of the Sultanate of Rum on the other, with Pisidia as a frontier region that changed hands between the two[82]. It was after the reconquest of the area by the emperor Johannes II Komnenos around 1120 that the fortified stronghold must have been established on Alexander's Hill. By that time, the city of Sagalassos had been largely abandoned and replaced by a *kastron* or fortified settlement centred on the promontory that previously housed the sanctuary of the imperial cult[83].

In the years following the disastrous defeat of the emperor Manuel Komnenos at Myriokephalon in 1176, the Seljuks again seized control of the area, most probably laying waste to the fort on Alexander's Hill and ending the settlement of the *kastron*[84]. These were uncertain times for sure, and given the less than comfortable circumstances provided by the largely collapsed spaces of RS, hardly appropriate for normal housing, one is tempted to identify the occupation of the cave-like site as a temporary shelter for some Byzantine people. A fragment of a possible lantern (or stove) with so-called *Kerbschnitt* decoration that presumably belongs to this Middle Byzantine assemblage may suitably represent this renewed and short-lived use of RS.

Conclusions

In spite of many years of illegal digging which destroyed large parts of the archaeological record, the rescue excavations at RS produced unexpectedly rich results, informing us about the historical use of the cave-like complex and the nature of the ancient activities

[81] Vionis *et al.* 2010.
[82] Belke and Mersich 1990: 102-124.
[83] Poblome *et al.* 2017.
[84] Vionis *et al.* 2010: 424-425.

taking place there. The archaeology of RS documents different functions throughout history of its usage – burial ground, sanctuary, shelter – in what remained essentially the same location. Indeed, notwithstanding its longevity and popularity, as evidenced by the enormous number of artefacts that was deposited at the site, no grandiose interventions could be ascertained there. This indicates that while the intrinsic qualities of the space undoubtedly played an important role, they cannot be considered deterministic for the role it played in the human landscape. The natural landform was given a cultural significance through the activities that took place there, as reflected by the material residue of these actions.

After a brief use as a burial site during the Late Chalcolithic period, people returned to this location after the city-state of Sagalassos came into existence during the Hellenistic period. It was the combination of objects as a whole and the very context in which these were used and placed that made it possible to identify the site as a sanctuary, more particularly, a site of popular worship. RS thus offered a unique glimpse into an aspect of ancient life not previously known from Sagalassos and the possibility to understand religious customs of one or more social groups other than the dominant elite represented at the shrines and temples of the city centre. The detritus of the rituals that took place there – ritual dining and votive deposition – was used to describe the social groups involved. The picture that emerged from the pottery was that of a sanctuary that presumably was visited by small groups of people who had close (family) ties. While the lack of written sources at RS will never allow us to obtain complete certainty concerning the composition of the participating group, representative votive offerings in the form of terracotta figurines leave no doubt that female concerns stood at the heart of the cult practiced there. Issues of love, sexuality, motherhood, childhood, education, and health, were all clearly brought to bear at the sanctuary. The presence of other categories of gendered material culture such as textile tools and elements of personal adornment, provides corroborating evidence to that extent. Consequently, it is permissible to assume that these gifts were primarily, if not exclusively, dedicated by (young) women, reflecting their (future) social roles as wives and mothers.

Interestingly, not the Christianisation of the city but local religious developments must have been responsible for the eventual demise of RS already in the 3rd century CE, emphasising once again the dynamic nature of ancient religious practice in spite of the conservative character that is generally attributed to it. Christianity, however, does appear to have been responsible for erasing all traces of cult at the site at the end of the 4th century. After a seismic catastrophe, probably during the 7th century, made the covered rock crevices largely inaccessible, the site only served as a temporary refuge in Middle Byzantine times before being abandoned.

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